



AFRICAN SPECIES OF THE GENUS *BACTRA* STEPHENS (LEPIDOPTERA, TORTRICIDAE)

BY

A. DIAKONOFF

Rijksmuseum van Natuurlijke Historie, Leiden

After having published surveys of the species of the genus *Bactra* Stephens from tropical Asia (1950, 1956), and from the Palaearctic and Mediterranean Regions (1956, 1959 and 1962), I now present a preliminary survey of the species from the Aethiopian Region, chiefly South Africa.

Does the genus show a rich speciation in tropical Asia, in South Africa this abundance is almost exceeded. At first I had the impression that India might represent the country of origin, a zoocentre, of *Bactra* species. The present results, however, suggest that we may be dealing with a very old group which may have originated in some ancient central region of the Old World Tropics, somewhere between the Asiatic and African continents, to spread east and west. This might explain the partly very puzzling distribution of certain species groups, e.g., the *boschmai* group: in New Guinea, Africa and the West Indies (!), the *coronata* group: in Australia, South Asia, and South Africa, etc.

The species of *Bactra* can easily be grouped in five natural subgenera, four of which have been defined by me previously (1956), while the fifth is described below. The general character of these subgenera, their taxonomic "behaviour", is not at all similar. So the species of the most extensive subgenus, *Chiloides* Butler, possess strongly specialized genitalia in the two sexes and show marked differences from one another. The group offers the greatest diversity of genital structure which makes its study very fascinating. *Chiloides* contains many species occurring throughout the tropical and subtropical regions of the Old and the New World. These features suggest a great antiquity of the group.

On the other hand, the two following subgenera, *Bactra* and *Nannobactra*, are different from *Chiloides*, but are rather similar to each other with regard to this taxonomic behaviour, viz., within each subgenus the species show but minor differences of genitalia; especially the females are rather uniform in each of these two subgenera. While those of *Bactra* Stephens may mostly be discriminated without difficulty, the females of *Nannobactra* Diakonoff often are so similar that their separation becomes a hazardous or even an impossible task. These two subgenera must be much younger than *Chiloides*, although of unequal origin: while *Bactra* must have developed from some simplified *Chiloides*-like ancestors through the loss of the valvula, *Nannobactra* may be regarded as a quite different off-shoot of the *Chiloides* stock, having originated through the speciation of the cucullus portion of the valva and of its armatures, but with the retention of the valvula.

Finally *Spinobactra* subgen. nov. and *Noteraula* (New Zealand) are endemic developments of *Bactra*-like ancestors.

The rather numerous species are very similar in appearance and facies. Most are subject to considerable variation along parallel lines, so giving rise to a series of infraspecific forms which in diverse species look very much alike. Therefore, the student is almost entirely thrown on the study of the genital characters — and there he finds a remarkable richness of structure, in males as well as in females. These structures are of a great specific rigidity and have a pronounced specific, as well as subgeneric, taxonomic value.

EDWARD MEYRICK, who described most African *Bactra* species (1909, 1911), and a few other Lepidopterists of his time (ZELLER, 1852, WALKER, 1866, WALSHINGHAM, 1881, MABILLE, 1900), were not aware of this internal diversity and used exclusively external characters. The result was rather chaotic.

So the extensive collection of *Bactra* species in the Transvaal Museum, forming the backbone of this survey, has been named by MEYRICK for more than three quarters. The results bear evidence of the impossibility to discriminate these species without dissecting and mounting the genitalia of every available specimen. Therefore, the older identifications be better entirely disregarded, except, of course, the types. That is the reason why I am not citing any of MEYRICK's determination labels in most cases.

In order to facilitate the use of some terms in the male genitalia in the subgenus *Bactra*, the reader is referred to fig. 1. The new concept, defined below and depicted in that figure is the "antebasal hairs". For explanations of a few more new terms I may refer to the descriptions of the subgenera.

The present survey is preliminary, for I expect to find more interesting material of African *Bactra* in other museums on that continent and elsewhere, for which I did not apply as yet. Not to delay the present results I am publishing them now, although several problems had to remain unsolved, chiefly by lack of sufficient material.

Two subgenera and 17 species are described as new and 9 earlier described species are recorded.

For material and information I am greatly indebted to the following persons and institutions. In the first place, to Dr. L. VÁRI, Transvaal Museum, Pretoria, South Africa; furthermore to Mr. J. D. BRADLEY, British Museum (Natural History), London, England; Dr. F. KASY, Naturhistorisches Museum, Vienna, Austria; Dr. J. F. GATES CLARKE, U.S. National Museum, Washington, D.C., U.S.A.; Dr. P. E. L. VIETTE, Muséum National d'Histoire Naturelle, Paris, France; Mr. E. TAYLOR, Hope Department, University Museum, Oxford, England, and finally, to the Information Attaché, South African Embassy, The Hague, Netherlands, for information on localities.

Figures 7 and 8 were made by W. BERGMANS, 38 and 73 by Miss R. VAN CREVEL, 64 and 72 by A. VAN DIJK, the rest by myself.

KEY TO THE AFRICAN SPECIES OF *Bactra* BASED ON GENITAL CHARACTERS

Males

1. A separate valvula absent 2

- A well-developed, clavate and coronate valvula present between cucullus and sacculus 10
- 2. Entire cucullus beset with numerous rigid spines; sacculus not bulbous, with an edge of very dense spines, punctulate area extending over the rest of sacculus *Spinobactra spinosa*
- Cucullus bristles and spines slender, only along its ventral portion; sacculus bulbous, without a dense fringe of spines, with Spc_1 only. Subgenus *Bactra* 3
- 3. Bases of socii with a rigid, sclerotized edge, making the socius to stand upright *lanceolana*
- Bases of socii never with a rigid edge, socius limply pending or recumbent 4
- 4. Punctulate area of sacculus extended, usually its distal half with numerous spines *pythonia*
- Punctulate area limited, mostly suboval, spines less numerous 5
- 5. Ms series formed of strong spines *cribropa*
- Ms series formed of small bristles or hairs 6
- 6. Uncus long and slender, pointed and curved, thus corona of spines long. Sacculus small, rigid, triangular or quadrate in profile, Spc_1 dense *graminivora*
- Uncus of normal length. Sacculus usually spherical, not rigid, nor sclerotized; Spc_1 normal 7
- 7. Terminal patch of cucullus bristles not developed, these bristles do not extend basad beyond the edge of sacculus *furfurana*
- Terminal patch of cucullus bristles well-developed, extending basad beyond the edge of sacculus 8
- 8. There is a well-defined, isolated, elevated wart halfway between edge of sacculus and punctulate area, beset with spines and hairs . . . *scrupulosa*
- No such isolated, elevated wart on sacculus 9
- 9. Punctulate area semioval, well-defined, longer; Spc_1 spines slender, straight and longer; basal hairs normal, not extended; terminal patch extended basad; its anterior edge forming a well-defined elevated ridge, beset with spines. Species with broader, less pointed wings and a straight termen . . *confusa*
- Punctulate area shorter, narrowed against top, at base not limited but extended transversely and merging into patch of basal hairs; Spc_1 spines less numerous (3—4), shorter, flattened and curved; terminal patch less extended basad, its anterior edge not elevated. Species with dilated, pointed fore wings and a sinuate termen *tradens*
- 10. Cucullus diversely shaped, usually elongate, not sclerotized, always with normal spines and bristles. Subgenus *Chiloides* 11
- Cucullus short and broad, rounded and sclerotized, with one to three series of very large spines, increasing in size downward. Subgenus *Nannobactra* . 23
- 11. Vinculum triangularly thickened in middle, dentate *venosana*
- Vinculum smooth, never dentate 12
- 12. Base of sacculus outwardly and inwardly with extremely dense long spines *punctistrigana*
- If sacculus spined then not only at base and not so densely 13
- 13. Sacculus with a marginal corona of long spines of equal length . . . 14
- Sacculus without a marginal corona of equal spines (seldom a few spines of

- diverse length at the bottom only, or spines short) 16
14. Top of sacculus strongly extended laterad, so as to form a triangular process crowned with long spines (cf. *tornastis*, p. 71) *triceps*
 — Sacculus broadly rounded, circular or semicircular in circumference . . . 15
15. Juxta very long, almost twice as long as sacculus is broad *sinassula*
 — Juxta of normal length, not longer than sacculus is broad *fasciata*
16. Top of very concave sacculus with an inside-turned process 17
 — Top of sacculus sometimes with a low and obtuse ridge but without a process 18
17. Apical process of sacculus long, conspicuous, obtuse *tylophora*
 — Apical process of sacculus aculety-triangular, more or less concealed . . . *aletha*
18. Aedeagus short, straight, tubular, not exceeding width of juxta. Sacculus with not numerous stout or thin spines 19
 — Aedeagus long, mostly curved, by far exceeding width of juxta, if moderate then flattened laterally 20
19. Sacculus with 5—10 stout spines *jansei*
 — Sacculus with a few (4—5) thin spines *adelpha*
20. Aedeagus moderate, strongly flattened laterally, appearing very broad, with denticulations before middle of upper edge *stagnicolana*
 — Aedeagus long, never flattened laterally 21
21. Sacculus not spined *sordidata*
 Sacculus distinctly spined 22
22. Sacculus spines long and slender, of diverse length, arranged in patches *trimera*
 — Sacculus spines short, numerous along lower half of outer edge, and few on top of sacculus *rhabdonoma*
23. Valvula extremely large, corona forming a long sinuate band . . . *sardonina*
 — Valvula of normal size 24
24. Tegumen with rounded-triangular shoulder lobes (bases of gnathos) distinctly aciculate *dasioma*
 — Tegumen either with entirely smooth shoulder lobes, or these lobes obliterate 25
25. Shape of sacculus vertically oblong, its upper half formed by a small and globular punctulate area, lower half appearing empty; spines of punctulate area numerous, long *legitima*
 — Sacculus not thus vertically extended; punctulate area occupying its larger part, its lower portion not thus extended; spines shorter 26
26. Spines of punctulate area numerous, dark, moderate, pointed; corona spines inequal: ultimate spine spindle-shaped, thick, point slightly bent . . . *minima*
 — Sacculus spines few, short, less pointed, not conspicuously dark; corona spines subequal: two or three ultimate spines approximately similar in size and shape *aciculata*

Females

1. No or very faint sclerotizations of the seventh segment; eighth + ninth segment not sclerotized; if posterior edge of tergite and bases of anapophyses

- slightly sclerotized, and there are small angulate sclerites on both sides of the ostium, then signum is absent. Subgenus *Bactra* (part.) 2
- Eighth + ninth segment more or less distinctly sclerotized, sometimes strongly sclerotized and modified. Signum usually larger, basket-shaped, always present 7
- Ostium moderate, pear-shaped, lamella postvaginalis vertical, narrow and wrinkled, posterior edges of genital sternite also finely wrinkled. Ostium flanked by two weak oval plates, their median edges thickened, so as to form a small refracting crescentic structure (figs. 6—7). Colliculum tubular, short. Signum absent. Subgenus *Bactra* (part.) *pythonia*
- Eighth ± ninth segment diversely sclerotized, usually only along its edge, or only sterigma moderately sclerotized, or there is a pair of rounded sclerites at the sides of sterigma; the latter always weakly modified, ostium usually being surrounded by aciculate or minutely haired simple folds or rounded prominences; genitalia rather uniform, species difficult to separate. Subgenus *Nannobactra* 21
2. Lamella postvaginalis with a transverse horizontal band of fine punctulations, or with a series of horizontal fine folds, or almost simple, never cap-shaped 3
- Lamella postvaginalis with a more or less developed cap-shaped structure, concave below. (Ostium usually on top of a prominence, visible only in profile) 4
3. Lamella postvaginalis with a series of fine horizontal almost straight folds, not concave below, sometimes hardly traceable. Ostium, shallow, of a crescentic aspect, its outer edge concave. Lobus analis elongate-semioval, with a gradually rounded top, outer edge convex *graminivora*
- Lamella postvaginalis with a well-defined transverse band of fine punctulations, edged above and beneath by a smooth fold, dilated and truncate at extremities. Lobus analis not distinctly semioval, its outer edge not so convex, top subobtusate but not gradually rounded *lanceolata*
4. Lamella postvaginalis with a simple cap, being a slender curved fold over ostium; rarely minute punctulations present above this. Signum always present, although small *furfurana*
- Cap of lamella postvaginalis more developed, or there are additional folds at the sides of the sterigma, or some sclerotizations, or there is more punctulation above the cap 5
5. Apophyses very long, free part of postapophyse distinctly longer than lobus analis. Lamella postvaginalis with punctulations and also several bristles on basal warts. Signum absent *dolia*
- Apophyses normal, free part of postapophyse about as long as lobus analis. No bristles on lamella postvaginalis 6
6. Cap of lamella postvaginalis broad, formed of one or two horizontal median folds and a small additional cap on each side. Ostium wider. A more or less sclerotized curved plate on each side supporting ostium. Signum absent *confusa*
- Cap of lamella postvaginalis less broad, without additional lateral caps;

- punctulation above this cap distinct, forming a well-defined elongate field; no plates at the sides of sterigma, instead a pair of darkly coloured small rods. Rostral margin of genital tergite often sclerotized and appearing as a semi-annular structure joining the bases of anapophyses. Signum absent . *tradens*
- Cap of lamella postvaginalis small, very narrow in middle, with slight lateral caps, the lateral edges traceable downwards and forming some additional folds on each side of sterigma; there is always some punctulation above cap. Signum absent *scrupulosa*
7. Sterigma strongly sclerotized, forming a complicated rigid and wide tubular structure rising collar-like around the ostium. Colliculum absent. Signum small. Subgenus *Spinobactra* *spinosa*
- Sterigma, when sclerotized, not forming a collar-like structure around the ostium. The ventral rim of ostium usually small or there is a colliculum. Signum larger, basket-shaped 8
8. Sterigma strongly sclerotized, sclerotization extending over the whole genital segment. Large species 9
- Sclerotizations not so extensive 11
9. Sterigma with a rounded median lobe connected with an asymmetrical colliculum *trimera*
- Sterigma mesially not lobate. Colliculum symmetrical 10
10. Colliculum shorter, gradually narrowed downward, its upper edge not extended laterally; anapophyses longer *triceps*
- Colliculum longer, constricted below upper edge which is strongly extended laterally and narrowed again from above middle to above end; anapophyses shorter *sinassula*
11. Sterigma, a moderate, subpentagonal or transversely oblong plate. Colliculum, a long, strongly sclerotized tube 12
- Sterigma and colliculum not thus 13
12. Sterigma pentagonal, colliculum appearing to originate from its centre, not distinctly dilated downward *tylophora*
- Sterigma transversely oblong, colliculum originating from its lower edge, dilated downwards *nesiotis*
13. Colliculum well-developed, more or less sclerotized, adjacent to ostium . 14
- Colliculum either small, not distinctly adjacent to the ostium but beginning below it, or colliculum ill-defined; if well-defined, then calyciform and little sclerotized 19
14. Ostium, a large pear-shaped simple opening. Colliculum, a large and thick tube *salpictris*
- Ostium not so large, less simple 15
15. Colliculum a completely sclerotized diversely shaped tube 16
- Colliculum more sclerotized laterally than in the middle 18
16. Colliculum spindle-shaped, very large *stagnicolana*
- Colliculum tubular 17
17. Colliculum rather long, dilated above middle; a sclerotized curved transverse fold along edge of genital segment *fasciata*
- Colliculum shorter, gradually narrowed. No transverse fold . . *rhaddonoma*

18. Folds and structures of lamella antevaginalis less extended, outer as well as inner usually less than semicircular, the circle being widely open above *venosana*
- These folds more extended, inner folds closed, forming several concentric circles; outer structure extended, strongly corrugated, forming more than a semicircle *punctistrigana*
19. Ostium and colliculum little sclerotized, calyciform, upper (anterior) edge strongly convex, with a median excision; this structure flanked by semicircular folds and two oval plates of the 7th segment *endea*
- Ostium and colliculum not thus 20
20. Colliculum moderately sclerotized, subconical, formed by two sclerites; ostium flanked by an oval structure with double rim and partly sclerotized inner portion. Lobus analis normal *adelpa*
- Colliculum weak, tubular, little sclerotized. Sterigma strongly projecting forwards (ventrad) which is visible only in profile. Ostium flanked by moderate, strongly sclerotized folds with a hyaline rim. Lobus analis very slender and elongate *jansei*
21. A sclerotized sinuate transverse band below ostium bursae *sardonis*
- No such band other species of African *Nannobactra*

Subgenus *Spinobactra* nov.

Figs. 2—4

With the superficial characters of *Bactra* Stephens, but with the valva shaped differently. Sacculus little indicated, only moderately broader than the base of cucullus, not swollen, from beyond base with an extremely dense row of long spines along outer edge; surface of sacculus entirely occupied by punctulations with fine hairs, although less dense than in other subgenera. Cucullus gradually narrowed, entirely beset with long spines, especially dense along the base. Aedeagus broad, curved, moderately long. Cornuti, a small group of spines.

Female genitalia with sterigma strongly sclerotized and forming a complicated rigid collar-like structure around ostium. Colliculum proper, absent. Signum, a small denticulate sclerite (similar to that in the subgenus *Bactra*).

Type-species, *Bactra (Spinobactra) spinosa* spec. nov.

An interesting novelty of the *Bactra* group. Apparently a specialized endemic form. *Bactra (B.) pythonia* is a transitional form, uniting *Spinobactra* with *Bactra*.

The slender insect shows distinct markings that are of a for *Bactra* unusual pattern and intensity. It is rather similar to that in *pythonia* which also suggests the proximity of these two species.

Bactra (Spinobactra) spinosa spec. nov.

Figs. 2—4

♂ 10.5—15 mm (holotype 12 mm). Head, antenna, and palpus white, tuft on vertex tinged creamy, palpus very slightly dusted with greyish laterally. Thorax white, shoulder mixed with grey. Abdomen whitish-ochreous.

Fore wing oblong-oval, costa rather curved at extremities, less curved in middle,

apex moderately rounded, termen hardly convex, almost straight, oblique. White, partly suffused with pale fuscous-grey with a leaden gloss; markings darker fuscous, partially suffused with tawny. Basal patch to $1/3$, indicated by its dark fuscous edge, ill-defined above, rather obtusely prominent in middle, narrow, slightly sinuate and vertical below; this patch moderately strigulated with grey-fuscous, hardly darker than the rest of wing; the prominence of edge of patch forming the first discal spot, dark fuscous; less than anterior half of costa with very short transverse strigulae, also obscured by fuscous-grey suffusion; posterior half of costa with 5 rather thick wedge-shaped oblique transverse streaks, separated by the usual pairs of whitish strigulae; these streaks short, except the fourth which is straight and traversing wing to before termen below apex; transverse fascia reduced to following dark fuscous suffused markings, mixed with tawny; a longitudinal moderate streak along posterior third of upper edge of cell and base of vein 9; an oblong conspicuous second discal spot, rounded-prominent below posteriorly and with a slender upcurved tooth-like appendix, continued across wing obliquely upwards and branching into fine dark lines along veins; above mentioned longitudinal streak and second discal spot interconnected by tawny suffusion along closing vein; ultimate costal streak followed by a slender short line, inwards-oblique and converging with streak below costa; an irregular zigzag blackish line from costa before apex, to middle of termen, followed by a semicircular outwards-convex line before lower half of termen; apex beyond black line grey; a conspicuous white area beyond cell, limited by the described remains of transverse fascia, so as to form an oblique, suboval well-defined spot with an extension towards costa before apex; spot in centre of ocellar area present but divided in blackish longitudinal strigulae. Cilia pale fuscous, dusted with dark fuscous.

Hind wing greyish-fuscous, with a slight bronze gloss, paler towards base, darker towards apex. Cilia pale fuscous with a grey-fuscous subbasal band.

The long series of males available is variable to some extent, but the species is characteristically marked and may be confounded only with *pythonia*. The markings usually are contrasting, dark on a white ground. Most characteristic is the large second discal spot, either not incorporated in a transverse fascia, deeply concave posteriorly and so embracing the white spot beyond cell. Often the edge of the basal patch is complete, oblique above middle, once more angulate but concave above dorsum; also the transverse fascia may be complete, its upper portion moderate, oblique, to middle of longitudinal fasciate portion (as described in the holotype), second discal spot strongly extended so as to fill posterior part of cell, its posterior edge concave, containing the white area; usually also the ocellar dot is dark, conspicuous, and oval. Seldom the wing is infuscated and the markings obscured.

♀ 12—16 mm (allotype 15 mm). Fore wing slightly broader and more pointed than in the male. Much paler, the markings being light to pale ochreous-tawny, otherwise similar to male, but with the pale area beyond cell smaller, more longitudinally extended, fasciate and less clearly defined, the entire wing dusted with pale purple; streaks along veins posteriorly dark and distinct.

Hind wing light greyish-fuscous, slightly tinged brownish.

Other females rather variable (most rather worn); they all are considerably

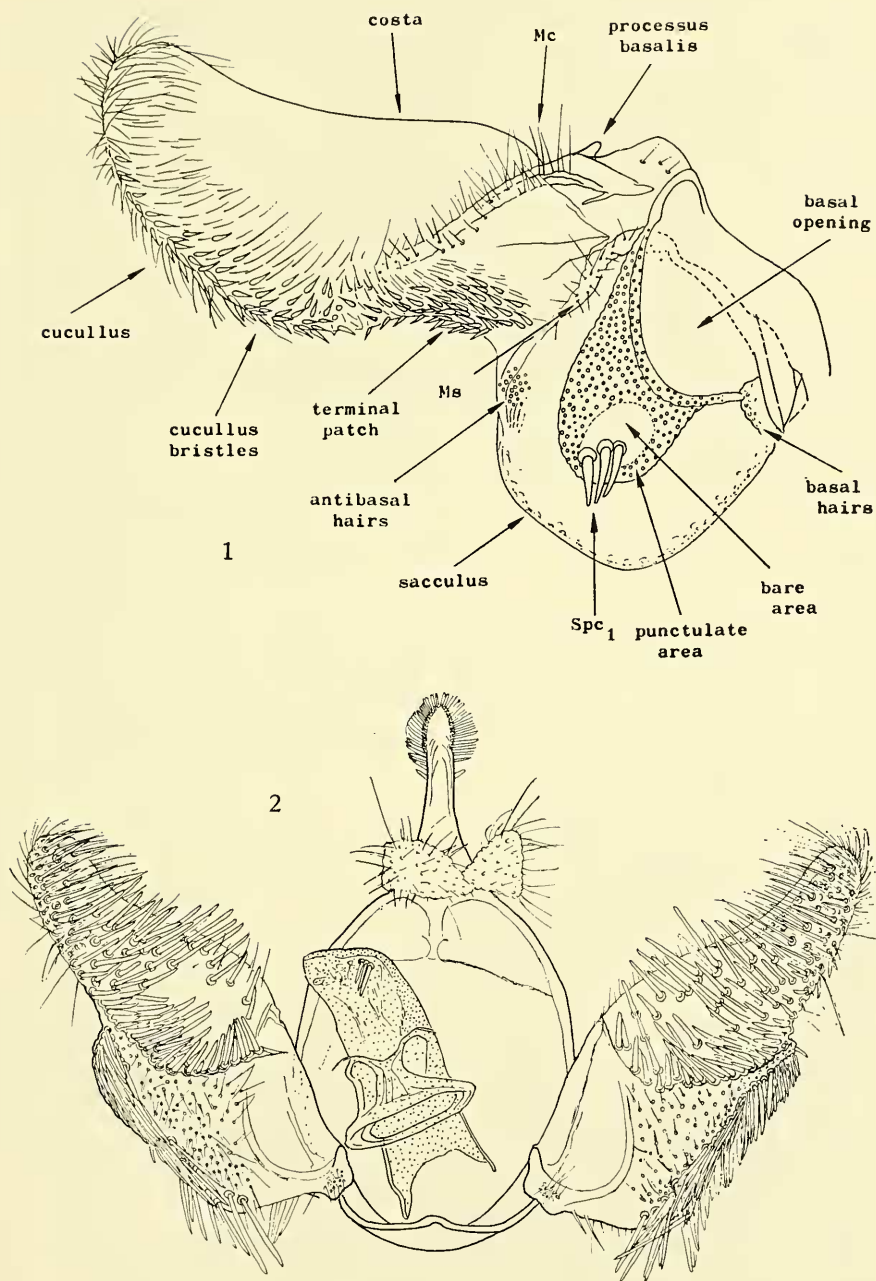


Fig. 1. Valva of *Bactra (Bactra)* species (*lacteana*), explaining the used terminology of the parts. Fig. 2. *Bactra (Spinobactra) spinosa* subgen. et sp. n., holotype, ♂, genitalia

paler, with markings delicate and rather fainter than in the males. Characteristic is the small and slender semicircular strigula before lower part of termen, concave posteriorly (as described in male); the ocellar dot is mostly distinct. One specimen has the second discal spot suffused with orange-ochreous.

Male genitalia. Tegumen and vinculum rounded, together forming an oval, vinculum rather broad, band-like. Uncus slender and rather long, corona long. Socius large. Valva rather broad, cucullus moderate and narrowed, entirely beset with long spines. Sacculus as described above, entirely covered with sparse punctulations, its outer edge heavily spinose. Aedeagus as described above.

Female genitalia as described above. Lamella antevaginalis strongly corrugated and of a peculiar shape. Colliculum not sclerotized. Signum very small.

Material examined. Males. South Africa, Transvaal, Pretoria North, 14.II.17 (C. J. SWIERSTRA), 1 ♂, holotype, gen. no. 4420. Paratypes: Transvaal, Pretoria, 2.III.1911 (D. BURGER), 2 ♂, gen. 4298, 4412; 31.XII.1909 (4446), 18.III.1910 (4445) (A. J. T. JANSE); Pretoria North, 5.II.1918 (4419), 13.III.1917 (4426), 4.II.1918 (4433), 17.III.1917 (4434) (C. J. SWIERSTRA). Nelspruit, XII.1917 (4421), II.1918, 2 ♂, 4422, 4424, 4428 (H. G. BREIJER), Nylstroom, 20.XII.1925 (4455, 4468) (A. J. T. JANSE). Three Sisters (near Barberton), 2.III.1911 (4440) (A. J. T. JANSE). Natal: Nkweleni, 10.I.1916 (4460—62) (A. J. T. JANSE).

Females. Transvaal, Pretoria. 4.I.1910 (A. J. T. JANSE), allotype, gen. 4318. Paratypes: the same locality, 23.II.1909 (2873), 5.II.1913 (4435), 1.III.1910 (4431). Pretoria North, 27.I.1917 (4425), 10.II.1918 (4427) (C. J. SWIERSTRA). Barberton, 20.XII.1910 (4442). Nelspruit, XI.1917 (no abdomen), II.1918 (4439). Natal, Nkweleni, 10.I.1916, 3 ♀ (3784, 4310, 4314), 12.I.1916 (4225) (A. J. T. JANSE).

Subgenus *Bactra* Stephens, 1834

Bactra Stephens, 1834, Ill. Brit. Ent. Haust., vol. 4, p. 124. — Diakonoff, 1956, Zool. Verh., no. 29, p. 5 (subgenus).

Aphelia Stephens, 1829 nec Hübner, 1826 (preocc.), Syst. Cat. Brit. Ins., vol. 2, p. 180. Type-species, *Tortrix lanceolana* (Hübner, 1796).

This group, presenting so many difficulties with discrimination of its species in the Palaearctic region (cf. DIAKONOFF, 1962), appears to give even more trouble in Africa. The northern African representatives of the subgenus are Palaearctic; they introduce their own, already familiar, problems. The veritable Aethiopian element, the three species *scrupulosa*, *tradens*, and *confusa*, discussed below, present difficulties very similar to those of the Palaearctic species, although to a lesser degree. Also their females are not all too clearly defined. As an exception to the rule in *Bactra*, size, shape of the fore wing, colouring and markings of these species help identification considerably.

Still it may be pointed out that I separated *scrupulosa* and *confusa* with the help of the genitalia first, and was surprised to notice the above mentioned superficial differences afterwards, now that they were more evident after this sorting out. A second step was in the opposite direction: I found two different types of males under *confusa* first, and after rechecking the slides, discovered the specific differences of the genitalia afterwards. So three groups of males were separated; subsequent

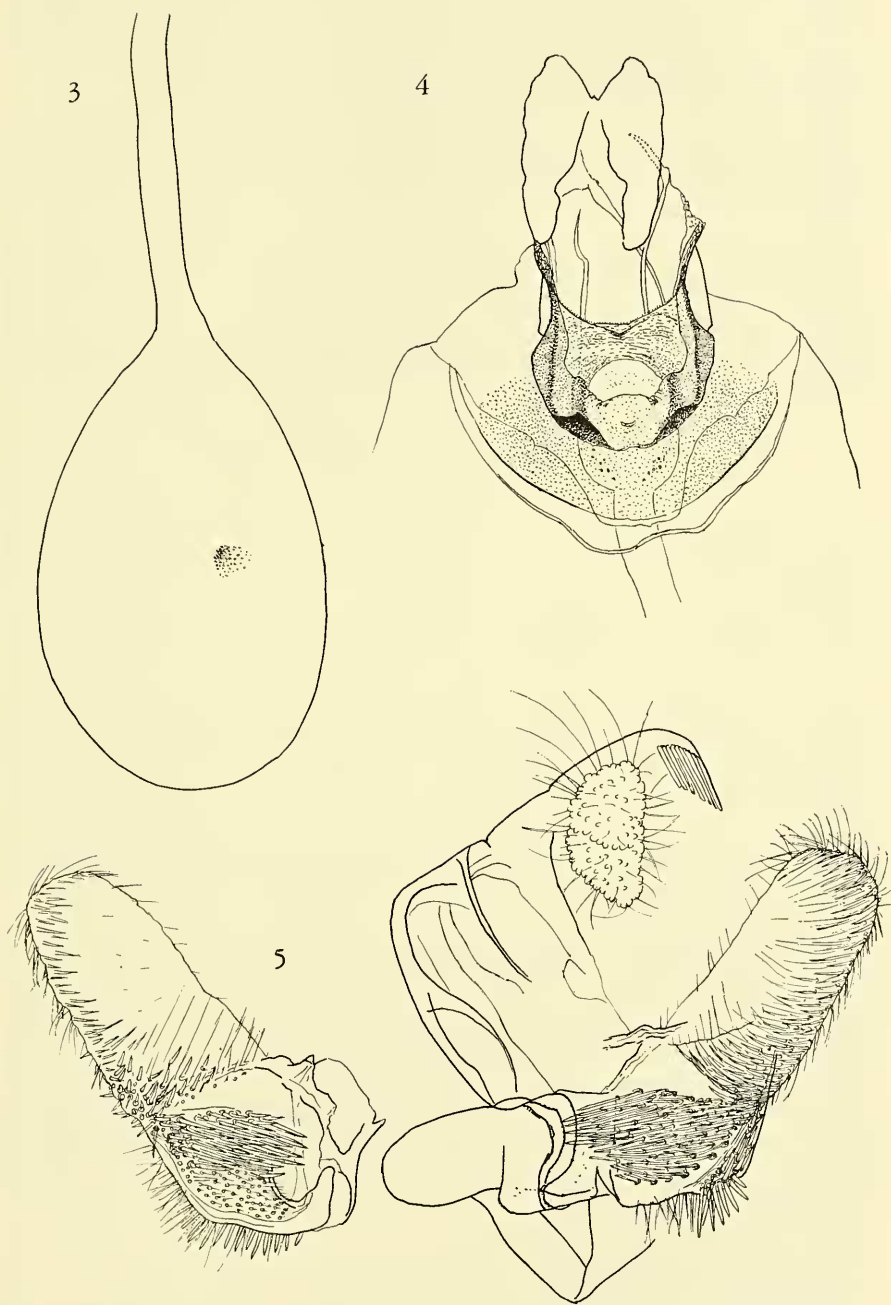


Fig. 3. *Bactra* (*Spinobactra*) *spinosa* subgen. et sp.n., ♀ allotype, bursa. Fig. 4. The same, sterigma. Fig. 5. *Bactra* (*B.*) *hebetata* Meyr. (= *pythonia* Meyr.), ♂ holotype, genitalia

selection of sex partners for *scrupulosa* and *confusa* presented now no excessive difficulties, for these females superficially are similar to the males. Much more difficult were females of *tradens*, being intermediate in character. Rearing experiments in some remote future might prove the correctness of my choice.

For the present I prefer to regard the three groups as good species, this in harmony with my experiences with the Palaearctic species of the subgenus *Bactra*, already mentioned in the introduction to the present paper, when referring to differences in the taxonomic "behaviour" of the three subgenera of the genus *Bactra*.

The groups in question — *scrupulosa*, *tradens*, and *confusa* — cannot be subspecies, because they occur together. I am greatly reluctant to regard them as "forms" or "varieties", because, as far as I am familiar with the Tortricidae, the differences of the male genitalia in these three species, though not striking, certainly exceed the limits of differences between infra-subspecific categories.

Bactra (*Bactra*) *pythonia* Meyrick, 1909

Figs. 5—8

Bactra pythonia Meyrick, 1909, Ann. Transv. Mus., vol. 2, p. 9, t. 3 fig. 7 (♀). — Clarke, 1953, Meyrick's Types, vol. 1, p. 267. — Anonymous, 1958, List Types S. & E. Afr. Museums, vol. 1, p. 57 ("holotype" indicated).

Bactra hebetata Meyrick, 1911, Ann. Trans. Mus., vol. 2, p. 227 (♂). — Clarke, 1953, Meyrick's Types, vol. 1, p. 154. Syn. nov.

Distribution. South Africa: Pretoria; Woodbush Village.

The original description of *pythonia* is based upon two female syntypes; no original designation of a holotype had taken place. Where in the "List of Types in the South and East African Museums" a "holotype" (abbreviated as "H.T.") is indicated, actually a lectotype is selected.

This is the first syntype; it was returned to the Transvaal Museum. The second syntype (a female without the abdomen, but conspecific beyond doubt) was retained by MEYRICK and is now in the British Museum.

After a critical comparison of a nice series of specimens of the two sexes I am satisfied that *pythonia* is the female and *hebetata* the male of the same species. The markings, facies and also many localities and dates (cf. below) correspond closely. The slight superficial differences of the two types fall within the individual variability, as well as within the sexual dimorphism.

This is a remarkable member of the subgenus *Bactra*, with markings rather differing from the patterns which are usual in the Palaearctic species, as summed up by me lately (1962, p. 5). JANSE's figure (*in* MEYRICK, 1909) is accurate but the colour is slightly too green. The genitalia are considerably different from those in the familiar Palaearctic species.

The types may be redescribed as follows.

Bactra pythonia Meyrick (Figs. 6—8).

♀ lectotype, 13 mm. Head whitish, edges of vertex suffused with pale tawny-fuscous. Palpus expanded anteriorly, edge roughish, terminal segment small, slender, almost concealed; sordid pale ochreous-tawny. Thorax ochreous-fuscous, tegulae scattered with fine tawny specks. Abdomen fuscous, venter pale fuscous.

Fore wing sub lanceolate, rather narrow, costa gently curved, apex moderately pointed, termen gently concave above, oblique. Ground colour of anterior half of wing pale grey, of posterior, white. Markings brownish and olive-tawny. Anterior $2/5$ of wing whitish-grey slightly dusted with olive and tawny, with about seven curved and interrupted, rather incomplete transverse brownish lines; every other line originating from a dark brown triangular dot; this area containing basal patch which is indicated by deeper and denser olive-tawny suffusion; edge of patch well-defined, before $1/3$, angulate in middle, convex above, concave below angulation; extreme edge of basal patch suffused with dark fuscous; posterior half of costa with five dark brown oblique wedge-shaped marks, alternating with minute, less oblique strigulae: first of these marks on transverse fascia, more distant from other, fourth continued across wing by a very oblique olive-tawny line; transverse fascia median, little oblique, formed by a rather irregular broad suffusion, dilated downward, with moderately suffused edges; fascia narrow and brown on costa, abruptly dilated and becoming olive-tawny below costa, with a pointed projection on each side above cell; anterior edge of fascia with a crescentic dark brown projection on a lower angle of cell, edging white discal dot from below; fascia below limited by fold; clear white ground colour of posterior half of wing forming the discal white dot and filling out disc beyond closing vein, thence extended apicad as a suffused streak directed towards costa before apex; apex with a tawny spot, centred with black; termen suffused with tawny and dusted with purplish; purple lines running between and parallel to veins, slightly thickened posteriorly; ocellus (distinct in left wing) centred with a subquadrate brown mark, indicated by an irregularly oval brown line along termen and between veins 4 and 5 above mark, anteriorly curved downwards and running in transverse fascia well below cell; dorsal margin with a series of dark brown strigulae and dots. Cilia pale grey, dusted with purple, with a white basal line and purple tips.

Hind wing pale grey, strewn with light tawny-fuscous except towards base, darker towards apex. Cilia concolorous, infuscated opposite apex.

Female genitalia. Eighth segment not sclerotized, ventral posterior edge with numerous light wrinkles. Lamella postvaginalis shaped as a slender longitudinal sclerite, narrowed downward, surface with many small folds; lower extremity of this sclerite deeply excised. Ostium bursae transversely oval or almost circular, simple, flanked by two oval refracting and transparent plates, each with a characteristic bent, also refracting and transparent small thickening of the edge directed towards ostium. Colliculum present, tubular, rather short, little sclerotized. Signum absent.

The lectotype is labelled thus: a printed label "Pretoria, A. J. T. JANSE", in the middle written "26.12.07. 11". Second label in red ink: "*Bactra pythonia* M., Type No. 1001".

The females are subject to some variation, the basal patch and the transverse fascia sometimes being obliterate; sometimes there is a black irregular spot in disc at the place of the obliterated basal patch. In some specimens there is a line along termen edging ocellus posteriorly, and originating out of a small black streak along posterior part of vein 5. The ocellus may be dissolved in two horizontal strigulae. The hind wing sometimes is considerably infuscated.

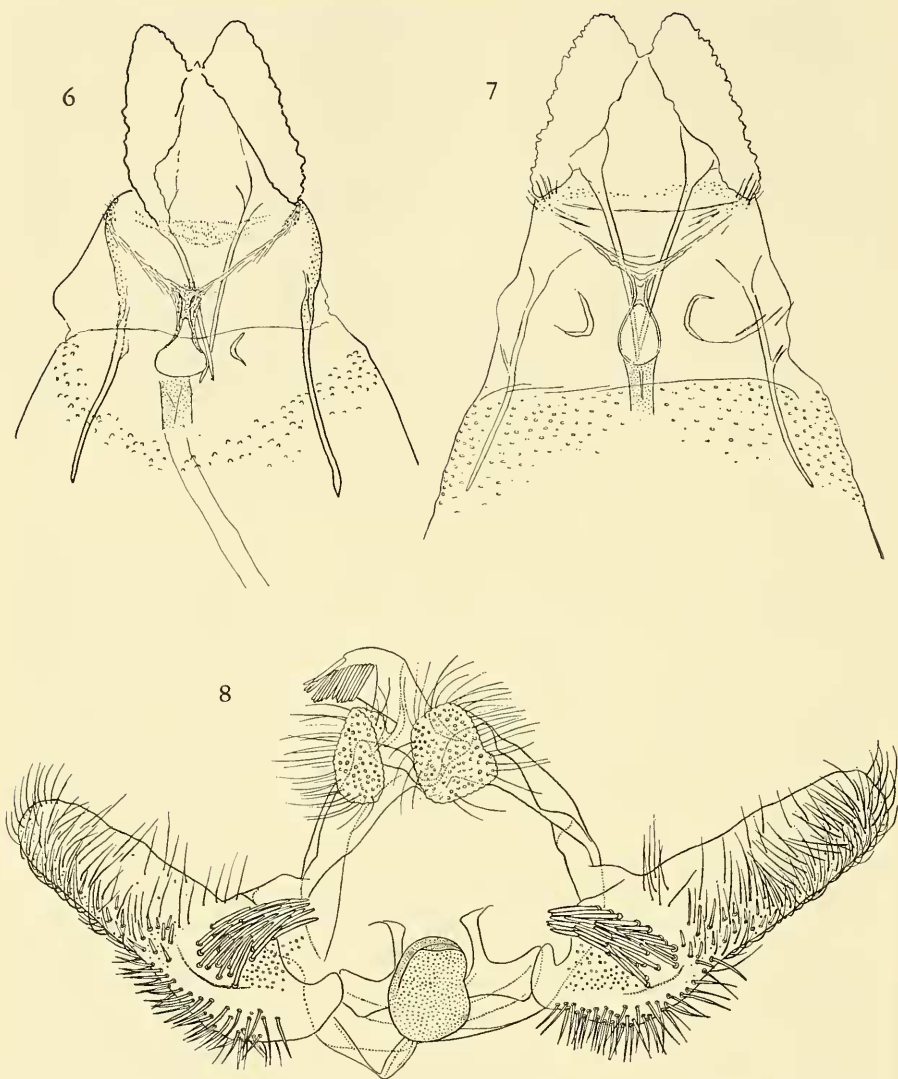


Fig. 6. *Bactra* (*B.*) *pythonia* Meyr., ♀ holotype, sterigma. Fig. 7. The same, ♀, gen. no. 3557. Fig. 8. The same, ♂, gen. no. 4415

Finally two specimens are melanistic, with the fore wing entirely and evenly dark fuscous (gen. nos. 4353, 4359).

Bactra hebetata Meyrick (Fig. 5).

♂ lectotype, hereby selected, 13 mm. Head sordid ochreous-white, sides of vertex infuscated. Palpus rather slender and smooth, subobtuse, pale grey-fuscous. Thorax dark fuscous with three pairs of large oval ochreous-whitish spots, more or less confluent.

Fore wing oblong, gently dilated, slightly broader than in female, costa gently curved, apex subobtuse, termen faintly convex. Whitish, partly suffused with

grey (tips of scales grey). Markings dark fuscous, slightly suffused with tawny. Basal patch shaped as in female, but darker fuscous; transverse fascia also fuscous and darker than in female, shape similar, but tooth of posterior edge above cell absent (possibly rubbed) and transverse fascia reaching dorsum; costal markings similar but more extended, also lines originating from them; a round dot in apex, larger, black; posterior portion of wing more suffused with dark fuscous, thus rather limiting the white spots described in female, but not quite obscuring them; distinct are: the white transverse patch beyond closing vein and a stripe from there towards costa before apex; veins beyond cell, however, suffused with dark grey, interneural lines extended and black; terminal line distinct throughout; ocellus as in female but anterior part of bordering line obscured, dark central dot smaller, confluent with posterior edge of transverse fascia. Cilia light grey with a white basal line and black submedian and apical lines.

Hind wing rather dark fuscous with a brown gloss. Cilia dark fuscous with a pale basal line.

Male genitalia. Tegumen rather high, comparable with that of *graminivora*. Uncus moderately long. Socius rather large. Valva elongate-oval, with almost parallel edges, top gradually rounded; hairy and bristly; sacculus swollen, along the outer edge with rather numerous strong spines, less distinct anteriorly and posteriorly, punctulate area large, extending over almost the whole surface of the saccular dilatation, anterior half (left valva) or the whole area (right valva) beset with strong and long, very dense and numerous spines, directed mesiad and partly projecting over the cavity of sacculus. The Mc series not distinct, obscured by numerous long bristles and short spines, densely scattered in this region. The same concerns Ms series. (The mount no. 4542 is overstained, the dark colouring obscuring the structure).

The lectotype, present in the Transvaal Museum Collection, has a damaged right wing and is rather darkly suffused. It is labelled thus. Printed label with green edge: "Woodb. Vill., C. J. SWIERSTRA", in the middle written: "15.12.1909". A written label "G(enitalia) 4542".

Usually a clearly marked species, with distinct white spot beyond cell and white streak towards end of costa, contrasting with deep tawny or brown of the transverse fascia and its crescentic projection; the ocellus is also characteristic.

Material studied. South Africa, Transvaal: Pretoria, Pretoria North, N.E. Pretoria, Heidelberg, Naboomspruit, Woodbush Village, Zoutpansberg, Waterval-Onder, Nelspruit, Kranspoort. Natal: New Hanover, Karkloof. Cape Province: Durban, Congella near Durban. Southern Rhodesia: Bulawayo. (A. J. T. JANSE, C. J. SWIERSTRA, H. G. BREIJER, LEIGH). 25 ♂, 13 ♀ (Genital nos. except types: ♂ 3521, 4411, 4413—4418, 4423, 4430—32, 4438—39, 4444, 4449, 4451—54, 4458, 4469. ♀ 2881, 3558, 3649, 4347, 4353, 4359, 4376, 4429, 4435—36, 4441, 4443, 4447—48, 4464, 4467, 4470, 4545).

A widely distributed species. Its position is very interesting for it is intermediate between the subgenera *Spinobactra* and *Bactra*, but closer to the latter and therefore incorporated in *Bactra*. Still it does not fit in the older conception of the subgenus, for the female genitalia and also the sacculus of the male are peculiar and very unusual.

Bactra (Bactra) dolia spec. nov.

Figs. 9—11

♀ 20—21 mm (holotype 21 mm). Head, palpus and thorax pale ochreous, palpus strongly dilated, with a roughish edge, slightly mixed with tawny. Abdomen pale ochreous.

Fore wing oblong, rather narrow, costa gently curved towards extremities, apex pointed, termen hardly sinuate, strongly oblique. Pale ochreous, dusted with light ochreous-tawny, markings light and dark fuscous. Costa with numerous light tawny strigulae, oblique and very slender, reaching to cell; dorsum and termen more dusted with light tawny, terminal area denser; a dark fuscous little suffused median stripe along lower half of cell, from base to closing vein; a fuscous-tawny, much lighter suffusion filling out remainder of cell and extending beyond cell so as to reach below apex; an interrupted narrow brownish line; a faint blackish dot in apex; a series of dark fuscous dots along dorsum. Cilia light tawny with a sub-basal and a supramedian brownish line.

Hind wing with a strong golden gloss, suffused with light purplish-fuscous, dorsum paler. Cilia pale golden.

All specimens are slightly rubbed and very uniform. Only the Transvaal Museum specimens have paler hind wings and a more contrasting median dark streak; the specimen from St. Lucia Lake has a conspicuous black dot in apex, continued as a narrow bar over cilia.

Female genitalia resembling those of *scrupulosa* but differing as follows. Anapophyses and postapophyses extremely long. Lobi anales longer and more slender along the proximal portion. Ostium bursae very similar to that in *scrupulosa*, but on top of a much larger and considerably sclerotized process or column; these sclerotizations conspicuous, forming an L-shaped sclerite on each side, lower half extended into an oval plate. Lamella postvaginalis forming a strong cap above ostium, above this cap the wall is strongly punctulate and with 1—5 articulating bristles on each side (never present in *scrupulosa*). Signum absent.

Discovery of the corresponding male will be interesting.

Material studied. In the British Museum. South Africa, Natal: Camperdown, 4.1908 (L.), holotype, ♀, gen. no. 3468, the same III.1908 (L.), paratype ♀, gen. no. 3614 (MEYRICK Collection).

In the Transvaal Museum. Natal, Umkomaas, 1.I.1914 (A. J. T. JANSE), 1 ♀, paratype, gen. no. 4301. St. Lucia Lake, X.1917, 1 ♀, paratype, gen. no. 4409. 4 ♀.

Bactra (Bactra) scrupulosa Meyrick, 1911

Figs. 12—15

Bactra scrupulosa Meyrick, 1911, Ann. Transv. Mus., vol. 2, p. 227. — Clarke, 1955, Meyrick's Types, vol. 1, p. 281. — Anonymous, 1958, List Types S. & E. Afr. Museums, vol. 1, p. 57 ("holotype" and "paratype" indicated).

Distribution. South Africa: Woodbush Village, Albert Mine.

♂ lectotype, 13 mm. Head whitish, vertex pale ochreous with a white median stripe. Palpus pale ochreous, strongly dilated, upper edge and apex roughish; pale

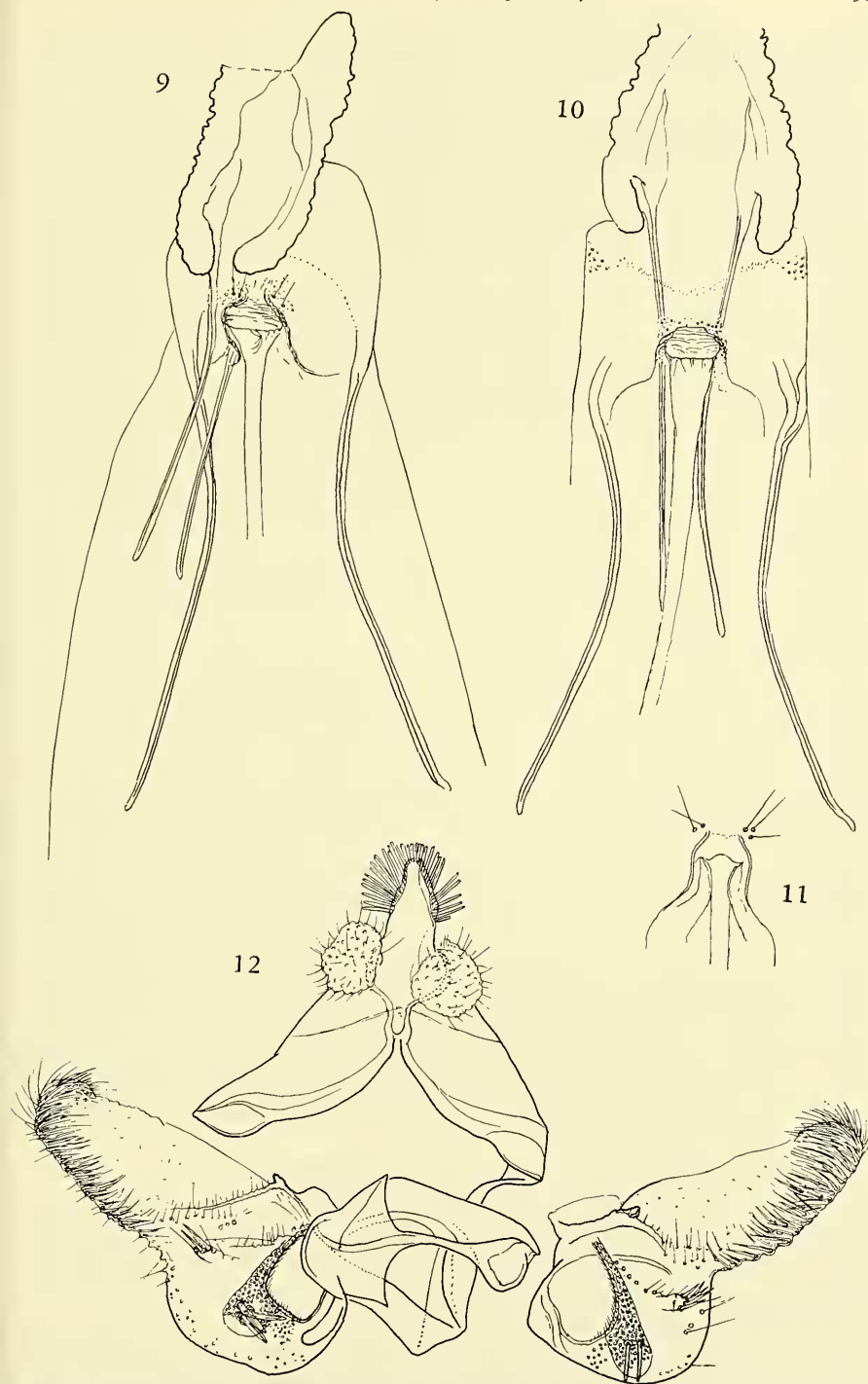


Fig. 9. *Bactra (B.) dolia* sp.n., ♀ holotype. Fig. 10. The same, ♀ paratype, gen. no. 4409.
 Fig. 11. The same, sterigma, paratype, gen. no. 4301. Fig. 12. *B. (B.) scrupulosa* Meyr.,
 ♂ lectotype, gen. no. 4186

ochreous, terminal segment slender, short, blackish. Antenna pale ochreous. Thorax pale ochreous, somewhat streaked longitudinally with white.

Fore wing narrow, sublanceolate, costa gently curved throughout, more curved anteriorly, apex moderately pointed, termen hardly concave, oblique. Ground colour glossy white, marbled, and over terminal third, suffused with pale tawny-ochreous. Costa with a series of large and rather irregular marks, some 12 of them, dark fuscous along anterior half, fuscous mixed with tawny along posterior half; basal patch indicated by an inwards-oblique tooth-shaped mark above fold beyond base of wing and by an irregular obliquely-subquadrate dark fuscous spot just before $1/4$, situated in middle of disc, upper edge concave, outer and lower edges rounded; transverse fascia represented by a moderate tawny-fuscous, oblique and zigzag mark from below costa before middle, to below lower angle of cell, rather well-defined, in left wing narrowly connected with costa; this mark followed by a small and short horizontal streak halfway between cell and tornus; wing beyond cell suffused with pale tawny-ochreous, with a faint indication of a regularly oval deeper tawny streak from lower angle of cell to vein 7 beyond its base, along 7 to before termen, thence curved down and running to termen above tornus; blackish dusting forming fine lines above veins 7 and 6; a round tawny spot in apex; dorsal edge with small irregular fuscous blotches. Cilia greyish with a sub-basal and a postmedian fuscous lines.

Hind wing pale grey, from middle towards apex becoming rather dark grey. Cilia glossy white, with an interrupted pale fuscous subbasal line.

Lectotype, labelled with a printed, green-edged label: "Woodb. Vill., C. J. SWIERSTRA", in middle written: "11-12.1909". A label in red ink: "*Bactra scrupulosa* Meyr., Type no. 2623." Genitalia no. 4186 ♂. "Cotype" a ♂ with a quadrate label in red ink: "*Bactra scrupulosa* Meyr. Cotype No. 1000" label in black ink: "Alb. mine 9.11.07 11" (gen. no. 4189). This specimen is much darker, strongly marbled and suffused with bright tawny partly dusted with dark fuscous, markings suffused; basal patch complete, edge strongly angulate, to $1/3$, upper half more oblique than lower half; transverse fascia shaped as an oblique straight band, from costa before middle to below end of cell, becoming darker brown downwards, merging in an indistinct pale tawny-ochreous marbling along dorsal third of wing; apical streak broad in middle; anterior end connected by a tawny line with $2/3$ of costa; two similar costal lines, parallel, between basal patch and transverse fascia; costa slightly sprinkled with black, several vertical series of black strigulae before termen below apex. Cilia pale tawny along termen, towards apex with a distinct white basal streak.

Hind wing similarly obscured but more fuscous-tinged.

The species usually is rather mottly marked and then may be referred to the "maculate" type (DIAKONOFF, 1962, p. 7, t. I, fig. 1); with a well-defined basal patch and a transverse fascia including the second discal spot; this latter, however, is not V-shaped but simply forms a straight and oblique continuation of the transverse fascia. An apical streak is not developed.

The long series available is variable; it is chiefly characterized by the small size and the narrow pointed wings of the two sexes. Furthermore, all males which are not too much rubbed show a transverse fascia originating from middle of costa,

usually more distinct and thicker than the parallel costal strigulae; these strigulae are moderate in number, not very slender and rather distant; the fascia runs obliquely across the wing and ends in a rather broad stripe across the lower angle of cell, including the second discal spot. The connection of this spot with the costa may be very narrow, but it is almost always traceable in not rubbed specimens. The basal patch in male is mostly distinct, its edge well-defined, at least along the upper half and is but seldom reduced to a transverse fasciate dark first discal spot.

The hind wing in the males is varying from dark fuscous (seldom) to pale greyish-fuscous, with a whitish base.

Both the fore and the hind wings are narrower and more pointed than in *confusa*.

The females are slightly more variable than the males, but have also narrower and longer wings than in *confusa*. They are usually more differing from this species than the males.

The following is a description of a characteristic female.

18 mm, neallotype. Head pale ochreous suffused with tawny, except on face. Palpus rather long, strongly dilated, edge roughish, pale ochreous, suffused with tawny. Antenna dark brown. Thorax pale ochreous, slightly spotted with pale tawny, tegula light; metathorax white. Abdomen pale ochreous.

Fore wing elongate, narrow, costa considerably sinuate, apex slightly produced, pointed, termen sinuate, oblique. Pale ochreous, along costa strigulated, elsewhere dusted or suffused, with light tawny. Costal strigulae slender, becoming longer along posterior half of costa and deeper tawny towards apex; a median longitudinal streak from base to apex, of bright tawny suffusion, dusted with minute black dots (tips of scales), this streak dilated beyond base, not quite filling cell, beyond cell slightly narrowed; termen suffused with paler tawny; apex with a blackish point, termen with a faint brown line, a series of blackish dots along dorsal edge; apex with a blackish dot. Cilia in tornus pale ochreous; elsewhere cilia tawny dusted with brownish and with white basal line, followed by a postmedian and a subapical narrow whitish lines.

Hind wing whitish golden, posterior half deeper golden tinged and with a faintest fuscous suffusion. Cilia whitish golden, paler towards dorsum, more ochreous-tinged along termen and around apex, a shadow of a subapical fuscous line; opposite apex cilia with brownish subbasal and subapical short lines, apex with a few dark dots.

Female specimen redescribed: Pretoria, 8.I.1910, (A. J. T. JANSE), gen. no. 4373.

Besides the described female which is of the fasciate type, which is the most common, there is also the reduced type present, derivable from the maculate type as described for the male, but with markings for the greater part obliterate; there are also a few pale females, the unicolorous, or almost unicolorous type.

Female genitalia are very close to those of the Palearctic *Bactra lacteana* Caradja, but differ by the invariable absence of a signum. The ostium bursae is perhaps a trifle wider than in *lacteana*, the colliculum part is very slender, the edge of the ostium usually has several small transverse folds. The lamella postvaginalis sometimes is moderately but distinctly sclerotized around the lateral corners of the

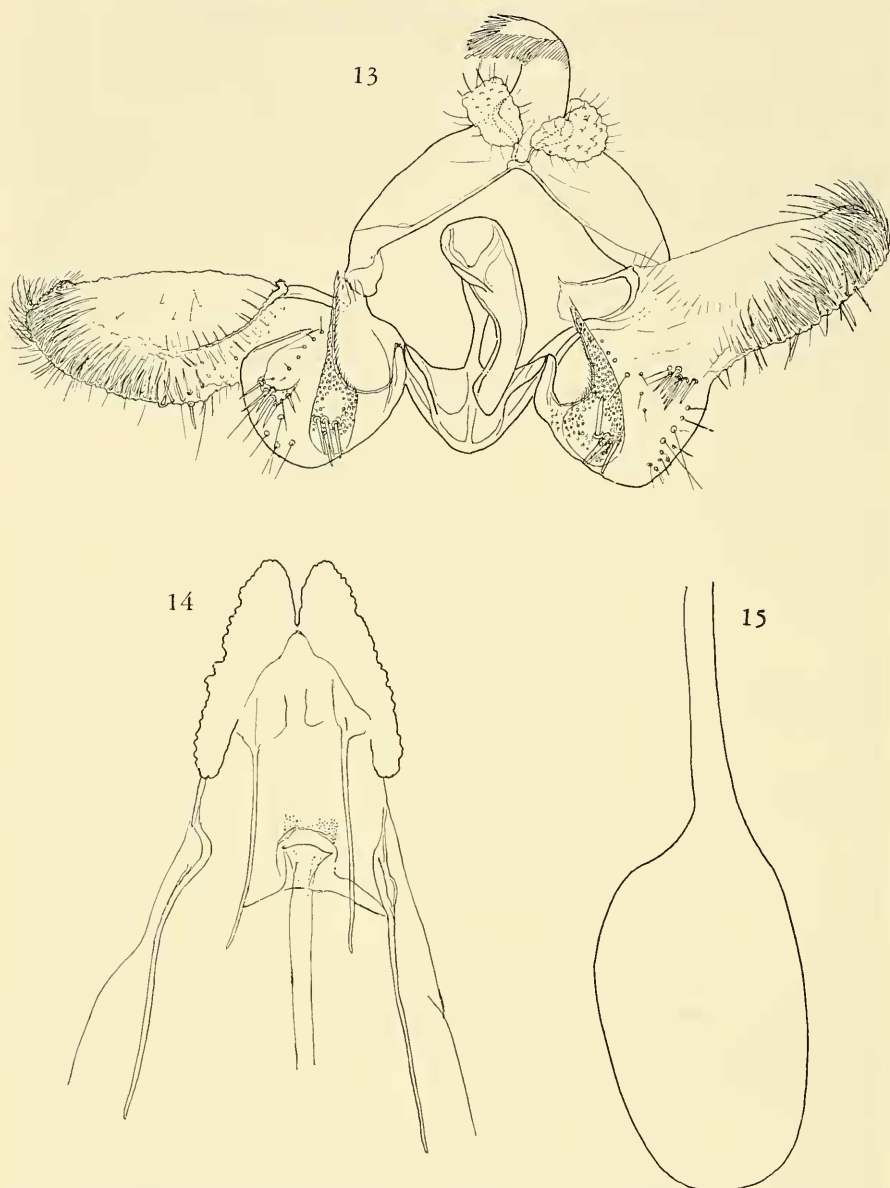


Fig. 13. *Bactra* (*B.*) *scrupulosa* Meyr., ♂ syntype, gen. no. 4189. Fig. 14. The same, ♀ gen. no. 4373. Fig. 15. The same, bursa

ostium; the "cap" above the ostium is as in *lacteana*, convex above, with several longitudinal folds, crowned by some distinct punctulation of the wall, sometimes shaped as small triangles, "ears", at the sides, exactly similar to those in *lacteana*. The lamella antevaginalis may be ill-defined or slightly indicated by a faintest sclerotization and then shaped as a subtriangular small plate with or without a

small curved fold on each side of the colliculum part of the ductus bursae; lateral ends of the ostium cap are then continued as the sides of that triangle. The apophyses are moderately long and slender. Actually the ostium is situated on top of a moderate prominence, visible only in profile.

Material studied. Besides the lectotype and the original syntype, mentioned above, the followings males. In the British Museum. South Africa, Transvaal: Pretoria. Natal: Frere, 3600 ft.; Weenen, Kimbolton Estcourt, 13.XI until 22.II (A. J. T. JANSE, C. J. SWIERSTRA, MARSHALL and HUTCHINSON, in MEYRICK and WALSINGHAM Collections).

In the Transvaal Museum. Transvaal: Pretoria, Fountain Grove, New Smitsdorp, Woodbush Village, Elandshoek, Modderpoort. Natal: Karkloof, Rietvlei, Eshowe, Cathedral Peak. Cape Province: Stellenbosch, Alexandria (Langebos) 27.XI, 3.IV. (Collected by A. J. T. JANSE, C. J. SWIERSTRA, OTTO, S. VILJOEN, Ch. K. BRAIN, A. CAPENER, L. VÁRI). Genit. nos: ♂ 2872, 3461, 3518, 3559, 3637—38, 3642—43, 3647—48, 3777, 3782—83, 4217—18, 4220—22, 4224, 4226, 4229—30, 4256, 4259, 4261, 4265, 4271, 4338, 4340, 4368, 4371, 4408, 4465, and T.M. 4541.

Females. In the British Museum. Transvaal: Pretoria, Barberton. Natal: Weenen, Kimbolton Estcourt. I—II (A. J. T. JANSE, H. THOMASSET, HUTCHINSON, in MEYRICK and WALSINGHAM Collections).

In the Transvaal Museum. Transvaal: Pretoria, Barberton, Pretoria North, Nelspruit, Waterval-Onder, Nylstroom. Natal: Karkloof, Rietvlei. Cape Province: Kleinmond 25.X—23.III (A. J. T. JANSE, C. J. SWIERSTRA, H. G. BREIJER, H. G. DICKSON). Genit. nos.: ♀ 2871, 2905, 3467, 3528, 3553, 3708—9, 3779, 3795—6, 4223, 4227—8, 4245—6, 4248, 4255, 4257—8, 4260, 4262—3, 4266, 4290, 4317, 4324, 4325, 4328, 4332, 4346, 4356, 4360, 4373. In total 33 ♂, 32 ♀.

***Bactra (Bactra) tradens* spec. nov.**

Figs. 17—18

♂ 13.5—17 mm (holotype 16.5 mm). Head pale ochreous, face creamy. Palpus creamy, laterally mixed with grey towards dorsal edge which also bears two well-defined black transverse marks; terminal segment grey. Thorax pale ochreous, tegula mixed with brownish along edge and on apex. Abdomen ochreous-fuscous.

Fore wing oblong-triangular, distinctly dilated, costa curved, apex pointed, termen sinuate, long, oblique. Pale ochreous, evenly suffused with pale leaden, all markings edged with creamy. Markings light tawny and dark brown, of the "tigroid" type. Costa with some 20 dark brown subtriangular transverse marks, each other mark continued as a slender tawny very oblique transverse strigula; along anterior half of costa these strigulae run more or less straight across cell, those along posterior half run parallel to preceding at origin but below costa turn horizontal and run towards termen, thence curve down and become almost vertical; ultimate two or three strigulae run to termen and along this to tornus; posterior extremity of costa with a conspicuous whitish spot; first discal spot somewhat irregular, dark brown with two teeth; second discal spot elongate-semioval, almost black; stigma not defined; space before termen somewhat more suffused with

tawny, appearing darker, space above dorsum less so suffused, lighter; a very faint ocellar dark dot; a suffused short blackish streak through apex. Cilia dark grey with a narrow basal, a faint antemedian, and an ill-defined subapical white lines.

Hind wing rather pale fuscous-purplish, becoming paler, almost transparent, on dorsum. Cilia sordid pale fuscous with a paler base and a grey subbasal streak.

Other males all show the same "tigroid" pattern with numerous, well-defined fine strigulae and limited discal spots; one specimen is rather bright tawny tinged, another rather suffused with darker leaden, a third shows a contrasting median blackish streak from base to apex, with an obtuse prominence on end of cell ("tigroid-fasciate", 4362).

♀ 16—19 mm (allotype 17.5 mm). Fore wing narrower, less dilated, but apex more pointed and termen sinuate and more oblique than in male. Colouring more variable. In the allotype fore wing strongly suffused with bright tawny-ochreous, finely reticulate and marbled with dark purplish; cell filled out with purplish; markings reduced to short dark strigulae along costal edge.

Hind wing pale fuscous, becoming paler towards base.

There are four female paratypes with similar genitalia and appearance; they are somewhat brighter tawny suffused and have a more distinct, although strongly suffused, median dark stripe. Three more females have less typical genitalia; these specimens are lighter coloured. It seems advisable to exclude them from the paratype series.

Male genitalia. Perhaps best comparable with the Palaearctic *furfurana*, but distinct. Also close to *confusa*. Tegumen rather low. Uncus moderate, curved, top pointed. Vinculum moderate. Valva broad and short. Cucullus bristles normal or rather weak. Sacculus moderate, somewhat smaller than in *confusa*, spheroidal, outer edge of cucullus is continued over the surface of the sacculus, thus forming a distinct small ridge or fold, the Ms series thus being unusually accentuated; this small ridge continues almost to the punctulate area. Terminal patch present but not dense; Mc series is not clearly defined or separated from the fine setae between this series and the terminal patch, in very much the same way as in *confusa*. The punctulate area is limited, shorter, narrower at the top, with 3—4 short curved spines; the group of basal hairs is clearly extended and entirely united with the punctulate area. The antibasal group of setae large, setae numerous and long (as in *confusa*). Aedeagus and caulis both rather long and sclerotized.

Female genitalia are not easily discriminated from these of *confusa* or *scrupulosa*, this forming the greatest difficulty with the identification of the species of the present paper. Actually intermediate between *confusa* and *scrupulosa*. Ostium wider than in the latter, less wide than in the former species. The rostral edge of the eighth tergite clearly sclerotized, uniting the bases of similarly sclerotized anapophyses as a bow or a semicircle, thus differing from *scrupulosa* where these parts are not sclerotized. The lateral sclerites of the ostium are not defined or indicated by very faint fragments of their caudolateral edges; however, each has a small peculiar dark and tubular appendix caudomesially, not developed in the other two species. Ductus and corpus bursae normal. Signum absent.

Material studied. Males. South Africa, Transvaal: Pretoria, 30.I.1910 (A. J. T. JANSE), holotype, gen. no. 4311. Paratypes: Pretoria, 3 and 29.XI.1909 (4312,

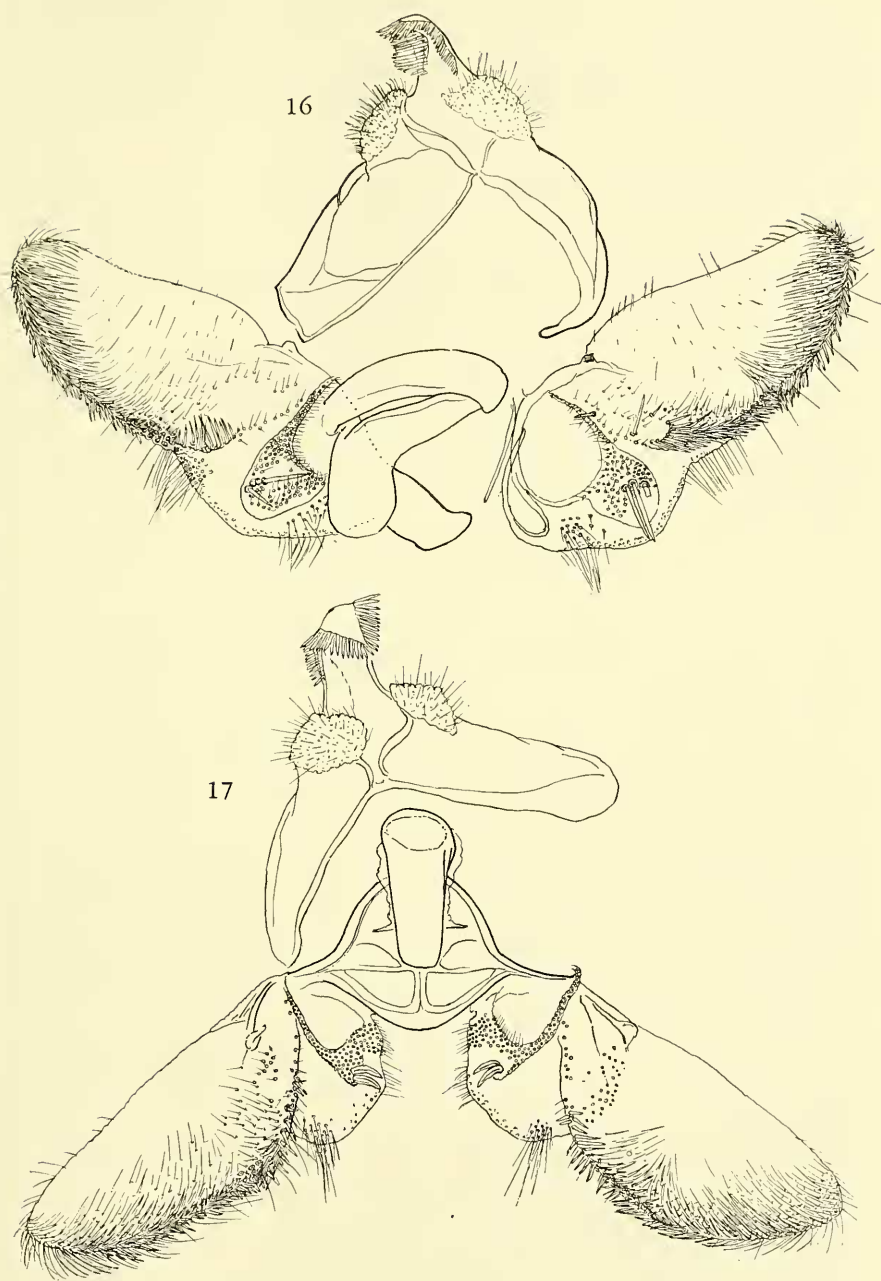


Fig. 16. *Bactra (B.) confusa* sp.n., ♂, holotype, genitalia. Fig. 17. *B. (B.) tradens* sp.n., ♂, holotype, genitalia

4326); 17.I.1910 (4313, 4323); 17.XII.1909 (T.M. 4544); 14.X.1917 (4362); Mahuba's Kloof, 1050 m, 18.I.1925 (4357) (All collected by A. J. T. JANSE). Natal, Karkloof, 11.I.1917 (4336) (same collector). Cape Province, Swellendam, IV.1943 (4336) (C. G. DICKSON). (In the Transvaal Museum). Transvaal, Pretoria, 2 and 8.XII.1909 (JANSE), 2 paratypes, gen. 3464 and 3465. (In the British Museum).

Females. Transvaal: Waterval-Onder, 11-13.X.1951 (A. J. T. JANSE), allotype, gen. no. 4404. Paratypes: Transvaal: Nelspruit, XI.1917 and II.1918 (H. G. BREIJER), gen. 4246, 4247 and 4248; Pretoria North, 23.III.1927 (C. J. SWIERSTRA), gen. 4245. Pretoria, 3.II.1910 (A. J. T. JANSE). Besides, the following females: Pretoria, 3.X.1907 (4333), 8.I.1910 (4373); Nylstroom, 4-5.III.1954 (4407). (All collected by A. J. T. JANSE). In total 12 ♂ and 8 ♀.

The species is intermediate between *scrupulosa* and *confusa* and also closely allied with *furfurana*. From the former two species it may be separated by the genitalia, from the latter, by entirely different facies and markings of the two sexes and also by the different sacculus of the male and the absence of a signum in the female.

Bactra (Bactra) confusa spec. nov.

Figs. 16, 19

♂ 12—15 mm (holotype 14 mm). Head, palpus and thorax pale ochreous-fuscous, tinged olive, face whitish, palpus laterally slightly dusted with grey. Abdomen pale fuscous.

Fore wing oblong, subovate, broad, costa rather curved throughout, less curved in median portion, apex pointed, termen long, straight, oblique. Whitish-ochreous, generally with olive tinge, markings being formed by fine olive reticulation, only partly mixed with fuscous. Costal markings not numerous, about 7—8 strigulae, dark fuscous on costal margin, pale olive thence, moderately oblique, faint along anterior half of costa, well-defined along posterior, throughout alternating with minute dark lines; basal patch not reaching to $1/3$, indicated by a narrow dark fuscous edge only, which is angulate slightly above middle, rather obtusely, and gently sinuate above dorsum; transverse fascia well-traceable, from middle of costa to just above end of fold, strongly suffused, olive-tinged, mixed with fuscous; this fascia moderate on costa, including a very irregular and strongly suffused second discal spot which is obliquely transverse; stigma hardly perceptible and ill-defined; lower third of posterior edge of fascia abruptly well-defined, serrate and little oblique; a fuscous suffused streak from apex to end of termen, gradually attenuated downwards, marked with a few blackish vertical strigulae. Cilia fuscous, a basal line and some tips of scales whitish.

Hind wing unicolorous dark grey-fuscous, with a very faint golden gloss. Cilia grey-fuscous with a whitish basal line.

The most conspicuous features of the species are broad and pointed wings with not sinuate termen, the fuscous-olive marbled markings and the unicolorous dark hind wings. The series of males is uniform, one specimen is rather suffused with brighter ochreous-olive and has a pronounced row of dark brown costal dots.

♀ 16—18 mm (allotype 17.5). Head and palpus paler, whitish-creamy, woolly

by rather loose scales, palpus finely dusted with grey, terminal segment grey. Fore wing slightly broader, costa a trifle more curved. Very similar to male but paler, less suffused, markings therefore more pronounced, thicker, unicolourous pale tawny-olive, without dark marks along costal margin; strigulae along posterior part of costa more complete, reaching to termen, one from beyond $1/3$ of costa even traceable to tornus, forming a loop in centre of disc; transverse fascia including a second discal spot of more usual shape; semicircular, with a traceable stigma; first discal patch is dissolved so as to form fuscous marbling.

Cilia and hind wing exactly as in male.

Another female (4385) is coloured thus. Rather densely suffused with tawny-olive, almost entirely obscuring the strigulae, except along costal edge where they are distinctly dark brown and short; transverse fascia similarly obscured by olive suffusion, only the second discal spot is distinct, being dusted with dark brown, as also is the terminal streak in apex and along its lower half; some dark dots along dorsum.

Other females similar, two are somewhat brighter coloured and with dark fuscous first discal spot rather extended along fold.

Male genitalia. Rather similar to those of the Palearctic *B. (B.) lacteana* Car., but distinctly different. Tegumen and socius normal. Uncus rather long (longer than in *lacteana*), top distinctly more pointed. Valva similar, rather broad and short, with a rounded top. Cucullus bristles in a broad row which becomes less and less dense towards sacculus; terminal patch is present, broad but not dense and somewhat irregular, continued far up the surface of sacculus; anterior edge of this patch beset with long and straight spines, then abruptly changing into Ms series which is seemingly double but sparse, then becoming single; the Mc series is rather ill-defined, occupying a broad area on and between the ridge of the processus basalis and extending halfway towards the Ms. The punctulate area similar to that of *lacteana*, large, semioval, top gradually rounded. Spc_1 spines rather long, slender and straight. The group of basal hairs is moderate but larger than in *lacteana*. There is another characteristic feature: a group of hairs on the opposite side of the sacculus just below the terminal patch, which I indicate with the name of antibasal hairs. This group consists of rather numerous long and thin setae. (In *lacteana* there are only a few very small setae there). The outer surface of sacculus is strongly wrinkled because of numerous scars of scales. Aedeagus and caulis rather long.

Female genitalia. Of a type similar to that of *scrupulosa*, but clearly distinct. Sterigma forming a prominence, much broader than in that species; this structure is flanked by two subcrescentic plates, clearly sclerotized, gradually dilated upwards, lower portions forming a semioval horizontal plate on each side. Cap of the ostium (lamella postvaginalis) wide, with several longitudinal folds, forming a smaller cap on each side, moderately sclerotized. Wall above cap only with a few wrinkles laterally. Ostium wide, single, calyciform. Ductus bursae narrow. Signum absent.

Material studied. South Africa, Transvaal: Wylie's Poort, 6.XI.1920 (C. J. SWIERSTRA), 1 ♂, holotype, gen. no. 4386. The same locality and collector, 6.XI.1920, 1 ♀, allotype, gen. no. 4387. All other paratypes: the same locality

and collector, 3-10.XI.1920, 1 ♂, 4 ♀, nos. 4383 ♂, 4380—1, 4384—5. Natal: Sarnia (Mrs. GURRY), XI.1913, 1 ♂, 1 ♀ (4383 ♂, 3786); the same locality. 10.II.1912 (WILLIAMSON), 1 ♀ (4278) (Coll. JANSE). Umkomaas, 4.XI.1920 (C. J. SWIERSTRA), 1 ♂ (4382); the same, 23.I.1914 (A. J. T. JANSE) 1 ♂ T.M. 4642). Karkloof: 12-20.I.1917 (A. J. T. JANSE), 2 ♀ (3797, 4475). Natal, Pinetown (L.), I.1909 (MEYRICK Coll., British Museum), 1, ♀, gen. no. 3460. 5 ♂, 10 ♀.

The present species could be separated without much difficulty. After having sorted out the specimens with the aid of the genital characters I was struck by the uniformity of the so selected series of the rather large, broad-winged insects.

Intermediate between *tradens* and *scrupulosa*.

Bactra (Bactra) furfurana (Haworth, 1811)

Tortrix furfurana Haworth, 1811, Lep. Brit., p. 466.

Bactra furfurana: Wilkinson, 1859, Brit. Tortr., p. 147. — Zeller, 1875, Verh. zool.-bot. Ges. Wien, vol. 25, p. 41. — Fernald, 1882, Trans. Am. Ent. Soc., vol. 10, p. 29.

Grapholitha (Aphelia) furfurana: Heinemann, 1863, Schmiett. Deutschl., Kleinschm., vol. 1, p. 135.

—— *acutana* Eversmann, 1844, Faun. Lep. Volgo-Ural, p. 529 (non binom.).

Phoxopteris lamana Zeller, 1846, Isis, vol. 30, p. 257.

Tortrix (Aphelia) scirpana Herrich-Schäffer, 1849, Syst. Bearb. Schmiett. Eur., vol. 4, p. 243.

Tortrix (Aphelia) pauperana Herrich-Schäffer, 1849 (nec Haworth, 1811), Suppl. p. 302.

Sciaphila canuisana Millière, 1847, Rev. & Magas. Zool., ser. 3, vol. 2, p. 247. — 1875, Ann. Soc. ent. Cannes, t. 1, f. 6.

Distribution. Northern Africa, Morocco: Buhasen. Palaearctic and Nearctic regions. Must have been introduced from Europe.

Bactra (Bactra) lanceolana (Hübner, 1796)

Tortrix lanceolana Hübner, 1796, Samml. europ. Schmiett., vol. 7, Tortr., t. 13, f. 80.

Ancylis lanceolana: Hübner, 1825, Verz. bek. Schmiett., p. 376.

Phoxopteris lanceolana: Treitschke, 1830, Schmiett. Eur., vol. 8, p. 232, no. 1.

Phoxopterix lanceolana: Duponchel, 1834, Hist. nat. Lépe., p. 339, t. 253, fig. 1.

Tortrix (Aphelia) lanceolana: Herrich-Schäffer, 1849, Syst. Bearb. Schmiett. Eur., vol. 4, p. 243. — Suppl. 1849, p. 317.

Bactra lanceolana: Wilkinson, 1859, Brit. Tortr., p. 115. — Stainton, 1859, Manual, vol. 2, p. 226. — Fernald, 1882, Trans. Amer. Ent. Soc., vol. 10, p. 28.

Grapholitha (Aphelia) lanceolana: Heinemann, 1863, Schmiett. Deutschl., Kleinschm., vol. 1, p. 134.

Tortrix dibeliana Hübner, 1800, Samml. europ. Schmiett., vol. 7, Tortr., p. 272.

Tortrix pauperana Haworth, 1811, Lep. Brit., p. 469.

Tortrix expallidana Haworth, 1811, Lep. Brit., p. 469.

Tortrix egenana Haworth, 1811, Lep. Brit., p. 469.

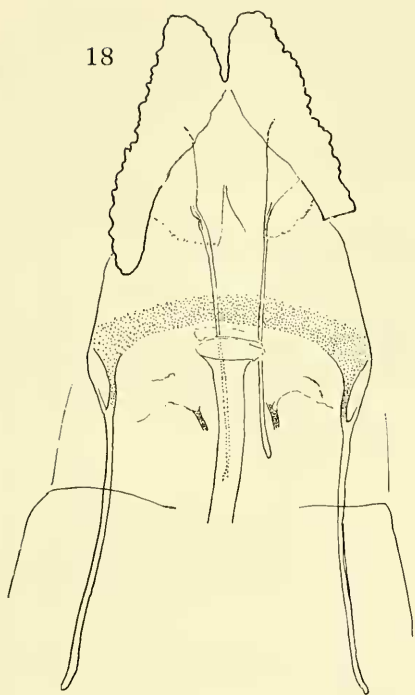
Tortrix egestana Haworth, 1811, Lep. Brit., p. 470.

Tortrix lanceana Frölich, 1828, Ent. Tortr. Würt., p. 98.

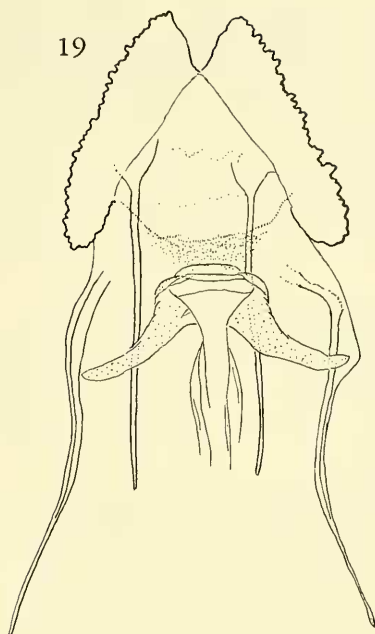
Bactra nigrovittana Stephens, 1852, List Brit. Anim., vol. 10, p. 99.

Fig. 18. *Bactra (B.) tradens* sp.n., ♀ allotype, sterigma and ovipositor. Fig. 19. *B. (B.) confusa* sp.n., ♀ allotype, sterigma and ovipositor. Fig. 20. *B. (B.) crithopa* Diak., ♂ holotype, genitalia (fig. 20 after Diakonoff, 1960)

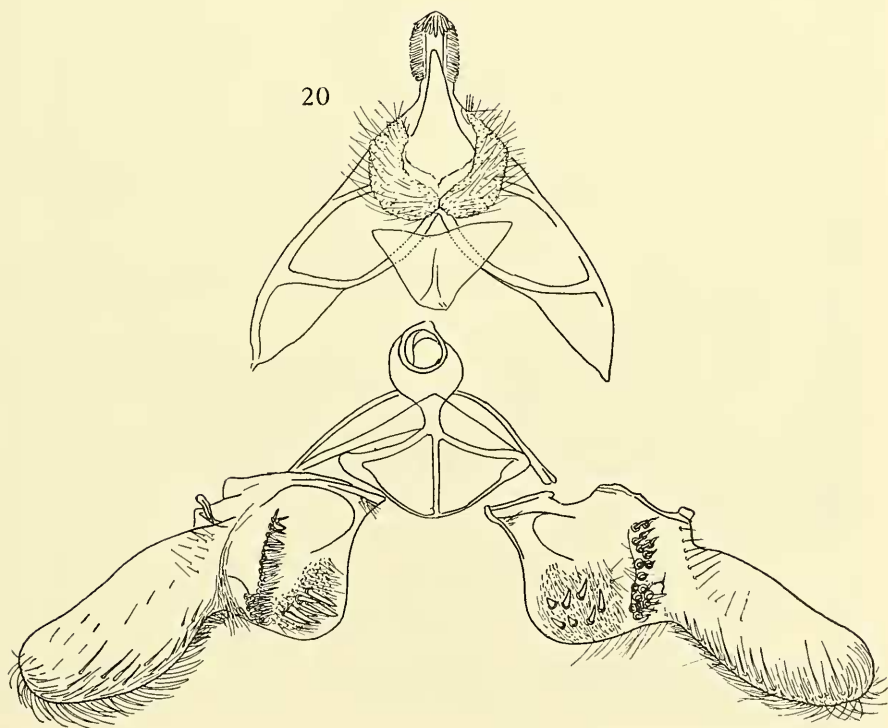
18



19



20



Bactra (Aphelia) egenana Kennel, 1900, non Haworth 1811, Iris, vol. 13, p. 264.

Bactra (Aphelia) fumosana Kennel, 1900, Iris, vol. 13, p. 263.

Bactra fumosana: Kennel, 1910, Palaearkt. Tortr., p. 472—473, t. 18, fig. 73a. — Rebel, in Staudinger & Rebel, 1901, Catal. Lep. Pal. Faun., vol. 2, p. 113.

Bactra (Bactra) fumosana: Diakonoff, 1956, Zool. Verh., no. 29, p. 16, fig. 16 (gen. ♀ type fig.).

Distribution. Northern Africa, Algeria, Morocco. Palaearctic region. Canada. Obviously introduced in Northern Africa from Europe.

Bactra (Bactra) graminivora Meyrick, 1922

Bactra graminivora Meyrick, 1922, Exot. Microl., vol. 2, p. 521 (♂ ♀, Bengal). — Fletcher, 1932, Life histories Ind. Microl., ser. 2, p. 24, t. 14 figs. a-d (biol., food-plants). — Diakonoff, 1950, Bull. Brit. Mus., Ent., vol. 1, p. 287, t. 6 fig. 24, t. 7 figs. 34, 36 (lectotype select., gen. ♂ ♀ fig.). — Amsel, 1958, Beitr. nat. Forsch. S.W. Deutschl., vol. 17, p. 76 (N. Arabia).

Bactra cyperana Amsel, 1951, Bull. Soc. Sci. Nat. Maroc, vol. 31, p. 68, fig. 4 (♂, Morocco).

Bactra mediterranea Agenjo, 1952, Faunula Lep. Almeriense, p. 99, t. 4 figs. 32, 33, t. 12 figs. 6, 7 (♂ ♀, Spain, Almeria).

Bactra (Bactra) graminivora: Diakonoff, 1956, Zool. Verh., no. 29, p. 18, fig. 10. — 1959, Bijdr. Dierk., fasc. 29, p. 179, figs. 6, 7 (*cyperana*, *mediterranea* syn.). — 1962, Zool. Verh., no. 59, figs. 1e, 18—20, 29, 30; t. III figs. 17—20. — 1963, Ann. Mus. Wien, vol. 67 (in press) (♂, Nubia).

Distribution. Canary Islands, South Spain, Malta, Algeria, Morocco, Egypt, Sudan, Nubia, Gambia, French Congo, Arabia, Iraq, Mesopotamia, Caucasus, Caspian region, Tadzhikistan, Bukhara, North Persia, Afghanistan, Hyderabad, Bengal.

This widely distributed Asiatic species apparently is a straggler in Africa. The incontinuous distribution suggests that it is rare and local.

The species is represented by the maculate form in the males with more or less pronounced discal markings characteristic for this species, while the females are, as usual, of the unicolorous form, with one exception, a vittate female, a form not familiar to me in *graminivora* so far.

Material studied. Transvaal Museum. Transvaal: Pretoria, 24.X.1915 (A. J. T. JANSE), 1 ♂, gen. no. 3785; 1 ♀, gen. no. 3415. Natal: Bela Vista, XI.1916 (C. J. SWIERSTRA), 1 ♀.

Vienna Museum. French Congo: Insongo, 27.III.1927 (WEIDHOLZ), 1 ♀, 4483. Sudan, Sungikai 19.III.1914 "*Bactra lanceolana* Hb., det. Meyrick", 1 ♀, 4484; Debri, 25.III.1914, 1 ♂, 4485 (as above); Rosti, 21.IV.1914 (do.), 1 ♂, 4486; Kororak, 31.III.1914, 2 ♀, 4487—8 (EBNER). In total 3 ♂, 5 ♀.

British Museum. West Africa: Gambia, Bathurst, XI.1884 (CARTER), WAL-SINGHAM Collection, no. 893, 1 ♀, gen. no. 3650.

Bactra (Bactra) crithopa Diakonoff, 1957

Fig. 20

Bactra (Bactra) crithopa Diakonoff, 1957, Mem. Inst. Sci. Madagascar, ser. E, vol. 8, p. 272, fig. 29, t. 8 fig. 20 (♂).

Distribution. Reunion.

The species of which only the single male is known, is easily recognisable by the Mc series formed not by hairs but by small spines, and by unusually large socii.

Subgenus *Chiloides* Butler, 1881

Chiloides Butler, 1881, Ann. Mag. Nat. Hist., ser. 5, vol. 7, p. 392. — Meyrick, 1885, Trans. New. Zeal. Inst., vol. 17, p. 142. — Fernald, 1908, Gener. Tortr., p. 44, 58. — Fletcher, 1929, Mem. Agr. Ind., Ent., vol. 11, p. 30, 46. — Diakonoff, 1956, Zool. Verh., no. 29, p. 19 (subgen. of *Bactra*).

Type-species, *Chiloides straminea* Butler, 1881.

For a short discussion of the subgenus may be referred to the introduction.

Bactra (*Chiloides*) *jansei* spec. nov.

Figs. 21—23

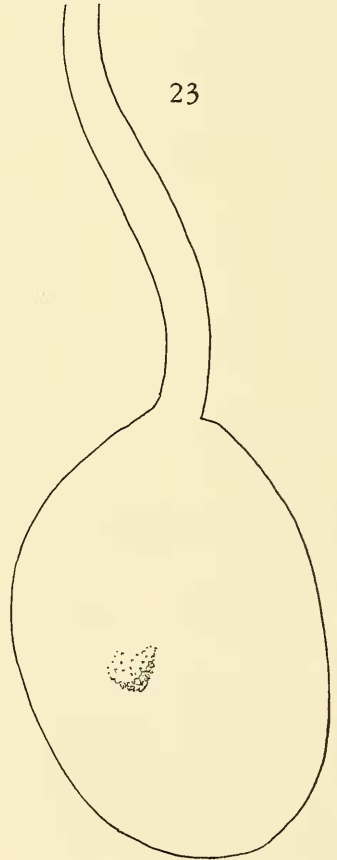
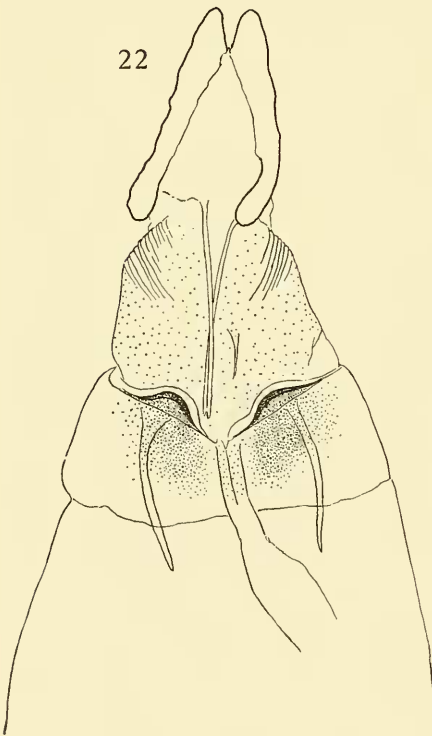
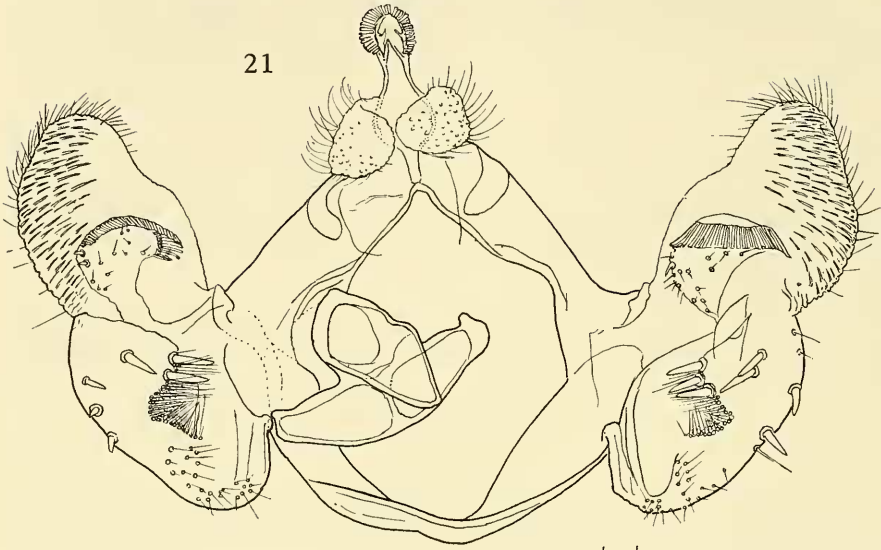
♂ 13—15 (holotype 15 mm). Head creamy. Antenna fuscous. Palpus pale ochreous. Thorax creamy, tegula infuscated, metathorax silvery-white. Abdomen pale ochreous, venter whitish.

Fore wing oblong, suboval, costa considerably curved throughout, apex pointed, termen sinuate, oblique. Creamy, rather densely dusted with purplish-brown, except an area in disc beyond cell extending halfway towards termen and limited by veins 3 and 8. Markings of the "tigroid" type, slightly reduced, tawny and brown. Costa with 6—7 thicker oblique strigulae, slightly undulate, some in the median portion of costa furcate towards wing margin (a very unusual feature; this furcation must be more or less incidental, as it is not congruent in right and left wings); these strigulae reach to cell and to vein 8, and alternate with minute shorter lines; penultimate costal streak forming a curved line across wing to tornus; basal fourth of wing rather strongly infuscated; first discal spot obliterate, second discal spot linear, a longitudinal dark fuscous strigula just above lower angle of cell; veins beyond cell finely streaked with brownish; a well-defined terminal streak, gradually dilated upwards, merging in a subtriangular and suffused subapical dark brown spot, being a reduced apical streak, including a small black streak through apex; a creamy spot on costa above apex. Cilia creamy with a suffused fuscous subbasal line.

Hind wing pale golden-fuscous, becoming very pale towards base, deeper fuscous towards apex, glossy. Cilia whitish, with a pale fuscous basal half.

The male series is rather variable, with more or less defined strigulation, some are pale fuscous, other pale ochreous tinged. One specimen (4327) is of the maculate type, with the fine strigulation noticeable but not conspicuous and with the both discal spots large, well-defined, fuscous, roundish, second spot larger and lighter than first. Sometimes (4322) the dorsal half of wing is suffused with purplish-fuscous. In paler specimens there is a contrasting black dot in apex.

♀ 13—17 mm (allotype 17 mm). Head and thorax fuscous mixed with creamy. Palpus pale ochreous, with an oblique median greyish stripe. Abdomen ochreous-fuscous.



Fore wing as in male, costa slightly less curved posteriorly, apex more produced, termen ochreous-tawny. Costal strigulae slender, rather pale, except on costal edge where they are brown; streaks along veins beyond cell more contrasting, brownish; paler area beyond cell reduced to a narrow streak between veins 7 and 9; there is also a pale transverse spot along closing vein; lower edge of cell broadly suffused with tawny-brown; slight dusting with dark brown indicating first and second discal spots, terminal fascia narrow, black dot in apex present. Cilia tawny, densely dusted with purple, a purple supramedian and a slender submedian lines.

Hind wing glossy whitish-golden, veins pale yellowish, extreme apex infuscated. Cilia concolorous, towards apex clouded with fuscous.

Other females paler, straw-ochreous, one more greyish-fuscous tinged; every one has the characteristic black apical dot; one specimen (4300) is fasciate: whitish-ochreous, with strongly reduced strigulae and with a broad dark fuscous-grey median longitudinal streak.

Male genitalia. Resembling those of the Australian *psammitis* Turner, but with differently spined sacculus. Tegumen low and robust. Uncus moderate, top with corona small. Socius rather large. Vinculum band-like. Valva broad and short, suboval. Cucullus broad, rounded, sparsely spined. Valvula moderate, with two lateral spines beyond the corona. Sacculus large, $\frac{1}{2}$, concave, with a semicircular series of 6—7 very strong spines, crossing the disc of the sacculus; punctulate area moderate, triangularly projecting laterad. Some fine setae scattered over base of sacculus. Aedeagus rather short, robust.

Female genitalia. Top of abdomen slender and elongate. Eighth segment rigid, sclerotized, compressed laterally (this does not show in fig. 38, does in fig. 41). Sterigma simple, a depressed-triangular lobe on each side of ostium, strongly sclerotized in middle, with a broad transparent upper edge; below each of the lobes, a rounded ill-defined sclerotization. Ostium not modified. Colliculum, a moderate, slightly sclerotized tube. Lobus analis slender and long, some wrinkles below foot of this lobe. Signum small, basket-shaped.

Material studied, in the Transvaal Museum. Males. South Africa, Transvaal: Mahuba's Kloof, 1050 m, 14.I.1925 (A. J. T. JANSE), 1 ♂, holotype, gen. no. 4364. Paratypes, the same locality and date, gen. no. 4361. Marieps Mtn. 3.I.1926 (G. VAN SON), gen. 4406. Pretoria, 4.XI.1909, gen. 4322; 8.XI.1909 (4327); Waterval-Onder, 10.X.1910 (4319) (A. J. T. JANSE).

In the British Museum. Pretoria, I.1910 (JANSE), paratype, ♂, gen. 3618. In total 7 ♂.

Females. South Africa, Transvaal: Barberton, 27.XII.1910 (A. J. T. JANSE), allotype, gen. no. 4306. Paratypes: the same locality and collector, 28.I.1911, gen. nos. 4300 and 4341. Natal: Sarnia, XI.1913 (Mrs. BURRY, Coll. JANSE), gen. no. 4289. Cape Province: Pt. St. Johns, 1-7.I.1931 (A. J. T. JANSE), gen. no. 4480. (In the Transvaal Museum).

Natal: Weenen, I.1925 (H. P. THOMASSET, MEYRICK Collection) 2 ♀, gen. nos. 2526 and 2527. (In the British Museum). In total 9 ♀.

Fig. 21. *Bactra (Chiloides) jansei* sp.n., ♂ holotype, genitalia. Fig. 22. The same of ♀, allotype. Fig. 23. The same, bursa

A rather small species of very variable and therefore confusing appearance. This material was identified by MEYRICK with *stagnicolana* ! The females are slightly larger. The pale hind wings in the two sexes are rather characteristic.

The nearest relative, at present known to me, occurs in New Guinea and Australia (*B. (C.) scalopias* Meyr.).

Dedicated to Professor Dr. A. J. T. JANSE, the nestor of the South African Lepidopterology and collector of most of the present material.

Bactra (Chiloides) adelpha spec. nov.

Figs. 24—26

♂ 20 mm. Head and thorax fuscous. Palpus rather dark fuscous-grey. Abdomen pale greyish-ochreous.

Fore wing oblong, dilated, costa curved at base, almost straight posteriorly, apex moderately pointed, termen sinuate, oblique. Tawny-ochreous, densely dusted and suffused with fuscous and fulvous, veins streaked with darker, rows of ferruginous points between veins (superficially the wing seems to be rather evenly fuscous-fulvous coloured and almost devoid of markings). Costa with a series of very short dark greyish-fuscous suffused marks; a moderate brownish streak in posterior part of cell, sharply limited by stigma which is whitish, very slender and fasciate, actually being a strigula along closing vein, gently convex outwardly; a faint tawny-ferruginous suffusion along termen, dilated upwards. Cilia purplish.

Hind wing glossy pale grey, on apical $2/3$ tinged brownish-fuscous, with a faint bronze gloss. Cilia concolorous.

Male genitalia. Similar to those of the preceding species (*jansei*), but more robust, with larger socius and a more defined tuba analis. Valva less broad, especially cucullus. Sacculus with a fasciate and extended narrow punctulate area, with at the base a few small spines, and at the top of this area with some five slender and bristle-like spines; a similar single spine on top of right sacculus, left sacculus with four more robust apical spines. Aedeagus somewhat longer.

South Africa, Transvaal: Pretoria, 3.XII.1909 (A. J. T. JANSE), 1 ♂, holotype, gen. no. 2903.

♀ 23 mm (allotype). Head and thorax rather deep tawny, slightly suffused with fuscous and with faint fulvous gloss in certain lights; face and vertex in middle rather bright ochreous-tawny. Palpus long, pointed, slightly rough along upper edge, terminal segment almost concealed; dark brown. Abdomen fuscous.

Fore wing elongate, rather narrow, costa curved at base, straight posteriorly, apex pointed, termen sinuate, oblique. Bronze-brownish, with slight traces of markings only. Costa suffused with fuscous-purple; an ill-defined broad median fuscous-purple streak from base to apex; a faint ochreous-yellowish streak from middle of upper edge of cell to apex; termen slightly mixed with brighter appearing tawny-orange in certain lights. Cilia (damaged) dark brown, with a series of whitish round spots along basal half, arranged on opposite ends of veins.

Hind wing light leaden-fuscous, with some yellowish tinge, dorsum as far as cell sordid pale leaden, without yellowish. Cilia whitish-leaden; along fuscous part, pale fuscous with a paler base and a fuscous subapical band.

Female genitalia. Sterigma simple, showing only a weak rhomboidal or sub-

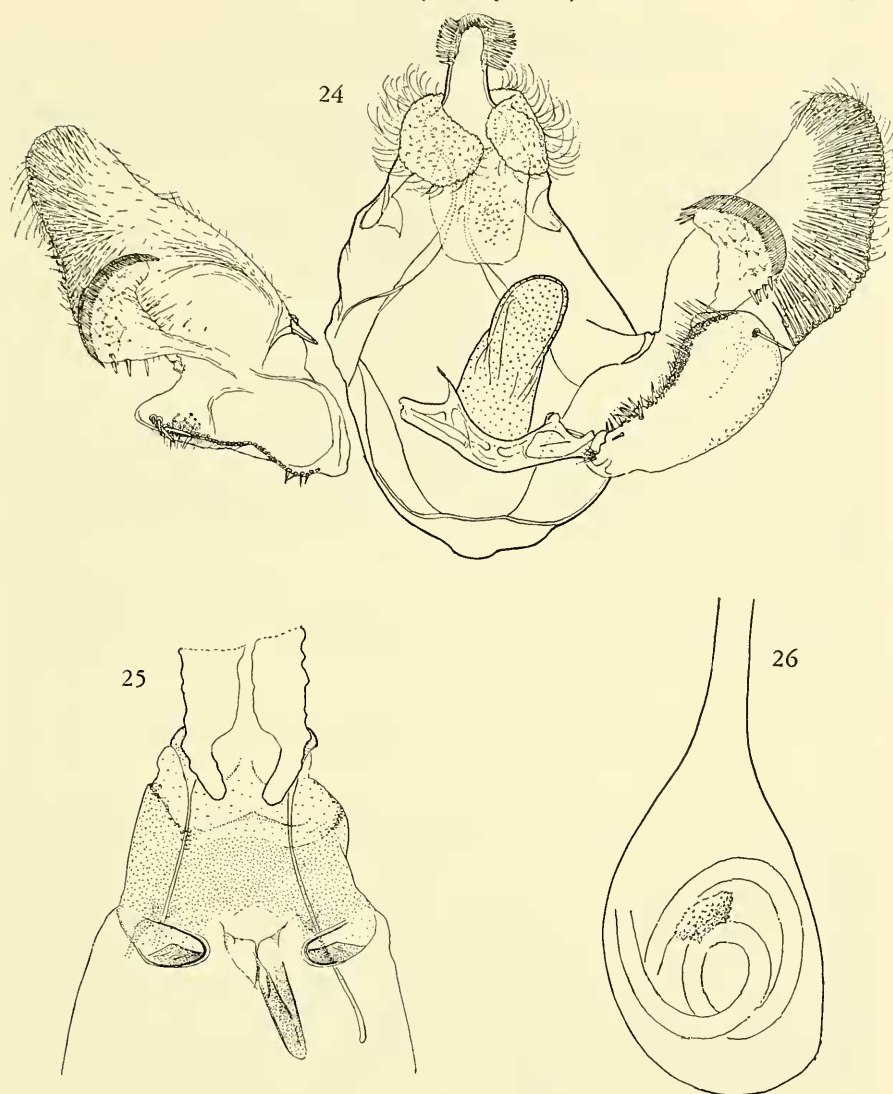


Fig. 24. *Bactra* (*C.*) *adelpha* sp.n., ♂, holotype, genitalia. Fig. 25. The same of ♀, allotype. Fig. 26. The same, bursa.

pentagonal ostium. This is, however, flanked by characteristic structures, being semioval impressions, open laterally, with a sclerotized edge that is margined by a hyaline substance. Colliculum, a slender, simple tube, slightly spindle-shaped, with several longitudinal folds. Postapophyses not perceptible. Signum moderate, basket-shaped, rather shallow.

South Africa, Transvaal: Tweefontein (near Bronkhorstspuit), 13.I.1907 (in JANSE's hand, 1 ♀, allotype, gen. no. 4476.

The species is much larger and not at all similar to *jansei* superficially, but judging from the genitalia, closely allied.

Bactra (Chiloides) simpliciana Chrétien, 1915

Bactra simpliciana Chrétien, 1915, Ann. Soc. ent. France, vol. 84, p. 302 (larva and pupa, on *Cyperus conglomeratus* Rottb.). — Amsel, 1951, Bull. Soc. Sci. Nat. Maroc, vol. 31, p. 68.

Bactra (Chiloides) telaviviana: Amsel, 1951, Beitr. nat. Forsch. S.W. Deutschl., vol. 17, p. 76, fig. 18 (♂ N.E. Arabia).

Bactra telaviviana Amsel, 1935, Zoogeographica, vol. 2, p. 46, 123 (nom. nud.). — 1935, Mitt. Zool. Mus. Berlin, vol. 20, p. 291, pl. 11, fig. 89 (Tel Aviv, Palestine). — 1935, Veröff. Deutsch. Kol. Uebers. Mus., vol. 1, p. 261, no. 230.

Bactra lactosana Turati, 1922, Atti Soc. ital. Sci. nat. Milano, vol. 61, p. 172 (Cyrenaica; sex?). Syn. nov.

Bactra pauperrima Turati, 1934, loc. cit., vol. 73, p. 196, t. 3 fig. 24 (Cyrenaica, sex?). Syn. nov.

The two species described by COUNT TURATI remained enigmatic, since the types are either lost or not accessible. All my informations concerning the fate of TURATI Collection did not provide any results. The collection seems to be in the possession of the TURATI family, but my inquiries addressed there were never answered.

The description of the two species and the figure of *pauperrima* concur in detail with those of *simpliciana*. Therefore it is apparent that we may sink both former names as synonyms of the latter, the present species being quite characteristic.

Bactra (Chiloides) sordidata spec. nov.

Fig. 27

♂ 18 mm. Head and thorax grey-fuscous. Palpus moderate, strongly dilated, triangular; dark fuscous with a pale greyish median streak, terminal segment very short, almost concealed, blackish. Abdomen fuscous.

Fore wing oblong, rather broad, costa gently curved throughout, apex obtusely pointed, termen gently sinuate, little oblique. Glossy purplish-fuscous, rather dark, slightly dusted with pale grey. Markings dull and therefore contrasting, ferruginous-tawny, more or less olive-tinged, limited (or partly rubbed?). Costal strigulae numerous, narrow and oblique, anteriorly not reaching cell, posteriorly some continued so as to form three or four more or less complete curved lines, running across wing between cell and termen, ending in tornus and lower part of termen; anterior part of wing except costa less densely strigulated, interrupted into short fragments; first spot small, dark fuscous, oval, in fold well beyond $\frac{1}{3}$; a roundish suffused ferruginous spot filling out space just beyond cell, another similar but smaller end transverse mark halfway between preceding and apex. Cilia (imperfect) ferruginous-fuscous.

Hind wing pale grey with a pinkish-bronze gloss, dorsal third whitish. Cilia concolorous but paler.

Male genitalia. Very similar to those of *rhabdonoma*, differing as follows. Socius larger. Vinculum broad and flattened. Cucullus much narrower, not attenuated, top broadly rounded. Valvula with a smaller corona, stalk distinctly extended in middle, with only a couple of spines. Sacculus broad and concave, but

simple, top truncate, without spines. Punctulate area slightly elongate. Juxta larger. Caulis longer. Aedeagus thicker, less curved and sclerotized, slightly shorter; cornuti, two adjacent dense patches of long spines.

South Africa, Natal: St. Lucia Lake, 18.XII.1932 (H. W. BELL MARLEY), 1 ♂, holotype, gen. no. 4403. Unique.

Bactra (Chiloides) tylophora spec. nov.

Figs. 32—34

♂ 21 mm. Head whitish-ochreous, sides of vertex infuscated. Palpus rather long, slender at base, abruptly triangularly expanded posteriorly, edge rough; terminal segment short, obtuse, semiconcealed; ochreous-whitish, a dark grey oblique suffused median band, on lower angle of top of apical tuft this band becoming black; terminal segment blackish, tip pale. Thorax fuscous (greasy), tegula pale ochreous dusted with dark fuscous. Abdomen light fuscous.

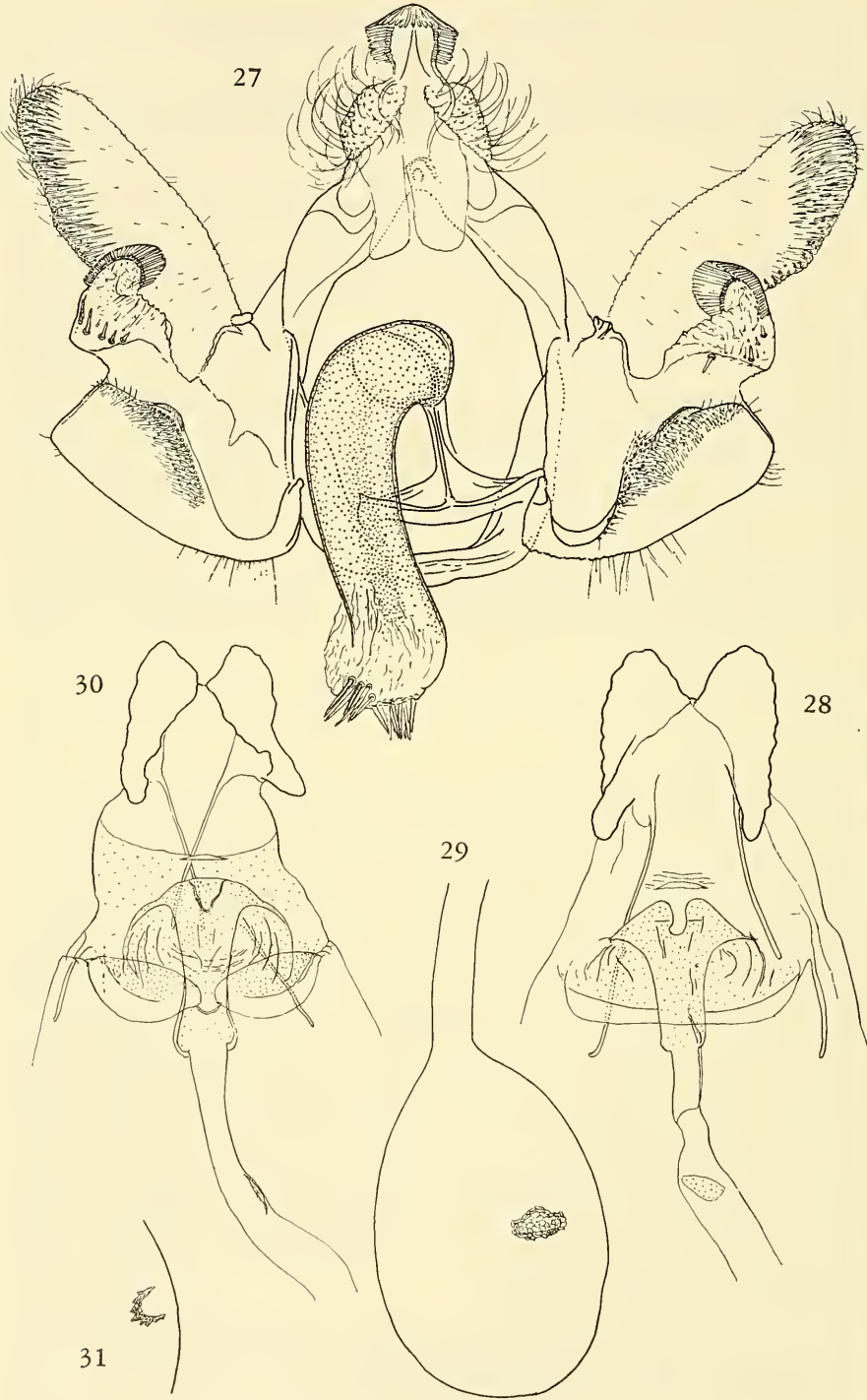
Fore wing suboblong, broadest at $\frac{3}{4}$, costa gently curved throughout, apex pointed, termen slightly sinuate, oblique, long. Pale ochreous, partially touched with pale yellow, sharply strigulated and marked with dark fuscous. Base of costal edge slightly infuscated; anterior half of costa with numerous fine strigulae reaching to cell, more or less interrupted; posterior half with much more oblique, almost horizontal strigulae and with indistinct pairs of pale marks, obscured by numerous very short dark strigulae; an irregular streak of coarse dark fuscous marbling below cell from about $\frac{1}{5}$ to lower angle; dorsum dark-marbled, its edge dark dotted; a dark fuscous suffusion along termen, reaching beyond middle of distance towards cell, above reaching to apex, below to lower part of termen; less obscure ground colour forming a streak from middle of cell to costa just before apex; this streak containing sharp and fine lines along edges of cell and along most veins; an area between posterior half of costa and dorsum similarly unobscured, pale ochreous; stigma snow-white, cutting dark line along lower parting vein and vein 6 in two parts; an interrupted line along lower half of termen. Cilia pale ochreous, an antemedian, a postmedian line and tips of cilia fuscous.

Hind wing rather dark fuscous-grey, paler towards base, with a faint bronze gloss. Cilia pale fuscous, mixed with whitish, a darker fuscous subbasal band.

Male genitalia. Tegumen moderate. Uncus rather short and broad. Socius large. Valva moderate, cucullus broad, simple, suboval, costal edge hardly sinuate; valvula rather short, stalk slender, top broad; sacculus deeply concave, devoid of spines, towards smoothly rounded top a submarginal longitudinal patch of minute hairs; only median posterior angle of the inner edge of sacculus extended into a strong characteristic process, with top blunt and slightly laminate; an oblique transverse band of small hairs across sacculus above its base. Juxta robust, rather small. Vinculum normal. Aedeagus broad, rather short, bent. Cornuti, several (11) strong spikes and a patch of smaller spines.

South Africa, Transvaal: Waterval-Onder, II.1912 (BONNEKAMP, Coll. A. J. T. JANSE), 1 ♂, holotype, gen. no. 4292. Orange Free State: Bloemfontein, 23.XI.1925 (H. E. IRVING), 1 ♂, paratype, gen. no. 4365. 2 ♂.

A robust species with finely dark-marbled and lined fore wings. Allied with



fasciata where a process of the internal edge of sacculus is already developed but short.

♀ 20 mm. Head, palpus and thorax pale tawny, but brighter than in male, palpus with an oblique dark grey streak laterally. Fore wing as in male but costa a trifle less curved. Whitish-ochreous, strigulated with pale ochreous-tawny, on anterior half of wing markings interrupted in series of numerous short strigulae, on posterior half markings obliterate, being obscured by a brighter tawny suffusion from cell to termen, between veins 4—7; costal markings minute, dark brown, short, first discal spot indicated by a dark fuscous vertical strigula, second discal spot, by a suffused fuscous rounded spot below lower angle of cell; a whitish short streak along bases of veins 3—5, veins themselves finely brown; a terminal streak and a suffusion below apex, brownish.

Hind wing slightly paler, especially towards apex where it is tinged ochreous.

Female genitalia. Sterigma, a moderate but strong rounded sclerite, with the upper edge truncate, the lower narrowed and truncate or folded over. Ostium in centre of this sclerite, strongly sclerotized, rather small, colliculum, a narrow rather long tube, appearing as a narrow sclerotized band on each side, each band with hyaline edges. Signum basket-shaped.

South Africa, Transvaal: Waterval-Onder, 23.XI.1910 (A. J. T. JANSE), 1 ♀, allotype, gen. no. 4348. 1 specimen.

The female is more ochreous tinged than the male and less sharply marked, but otherwise very similar.

***Bactra (Chiloides) endea* spec. nov.**

Figs. 28—31

♀ 11—14 mm (holotype 12 mm). Head and thorax creamy, vertex pale tawny. Palpus strongly dilated, with a rough edge; creamy, infuscated except at apex, terminal segment exposed, slender, fuscous. Abdomen glossy whitish.

Fore wing suboval, costa rather curved throughout, apex pointed, termen gently sinuate, considerably oblique. Creamy-white, minutely strewn with brown (tips of scales!), markings narrow, well-defined, dark brown. Anterior part of costa with a series of short marks, posterior part with about five very distinct oblique and long streaks, on costa dark brown, below costa becoming olive-tawny and narrowed; these streaks alternating with minute dark brown transverse marks; basal patch indicated by a curved, slightly outwards-oblique line, from before $1/4$ of costa to well beyond $1/3$ of dorsum, oblique above, becoming less oblique below, in fold including the dark brown conspicuous first discal spot; this spot elongate, acute anteriorly, tolerably rounded posteriorly; second discal spot large, tawny touched with olive, crescentic-suboval, arranged longitudinally, edges somewhat suffused; anterior arm of this spot connected with the first costal streak originating from slightly before middle of costa, posterior arm very short; stigma creamy, elongate-oval, not conspicuous; apical streak brownish mixed with purple

Fig. 27. *Bactra (C.) sordidata* sp.n., ♂ holotype, genitalia. Fig. 28. *B. (C.) endea* sp.n., ♀ holotype, sterigma and ovipositor. Fig. 29. The same, bursa. Fig. 30. The same, ♀ paratype, gen. no. 3520, sterigma and ovipositor. Fig. 31. The same, part of bursa with signum.

dusting, extended into an elongate shade, becoming darker posteriorly; an elongate black dot in apex; terminal edge with a tawny marginal streak; dorsum with a series of slender dark brown transverse marks. Cilia creamy, densely dusted with purplish, so as to form several narrow darker lines.

Hind wing creamy with a golden gloss, posterior half gently infuscated. Cilia concolorous, along termen and around apex infuscated, and with a subapical fuscous band. The paratypes are all rather uniform and similarly marked; only one specimen (3651) is moderately infuscated all over the wing.

Female genitalia. Sterigma very delicate, only lightly sclerotized. Ostium bursae and colliculum trumpet-like, top dilated laterally and rather mushroom-shaped, under this "hood", a series of semicircular folds. Edge of seventh segment modified into two oval plates (less distinct in holotype). Ductus bursae abruptly narrower than colliculum. A small sclerite is present representing a cestum. Signum, rather small, basket-shaped.

West Africa, Gambia: Bathurst, XI.1884 (CARTER), 1 ♀, holotype, gen. no. 3652; the same, 1884, 1 ♀ paratype, gen. no. 3656; the same XI.1884, 1 ♀, paratype, gen. no. 3651; the same, XI-XII.1885, 2 ♀, paratypes, gen. no. 3617, 3636. Nyassaland: Mt. Mlanje, 28.I.1914 (S. A. NEAVE), "*Bactra pythonia* Meyr., teste Meyr. 683", 1 ♀, paratype, gen. no. 3520. 6 ♀.

The species is extremely close to *B. (C.) angulata* Diak., from Borneo, Java, Moluccan and Palau Islands. The slender species have the same facies and markings. The genitalia, however, differ sufficiently to justify the separation of *endea*. The ostium bursae in *angulata* is stronger, at top more compressed so as to form a median and two lateral spout-like folds, plates at the foot of ostium are standing upright and are much more sclerotized, the caudal edge of the eighth segment is more distinctly modified.

The males are so far unknown.

Bactra (Chiloides) rhabdonoma spec. nov.

Figs. 35—37

♂ 13—17 mm (holotype 17 mm). Head creamy with a faintest pinkish tinge on vertex. Palpus moderate, strongly dilated, fuscous-grey. Thorax creamy, tegulae touched with pinkish, with a pinkish-lilac gloss in certain lights. Abdomen fuscous.

Fore wing pointed-suboval, rather broad, costa considerably curved throughout, apex pointed, termen hardly sinuate, oblique and long. Pale creamy-ochreous, anterior half faintly pinkish, posterior yellowish tinged. Costa with numerous oblique dark strigulae, anteriorly dark brown and short, along more than posterior half becoming extended by slender tawny appendages; interspaces anteriorly grey, posteriorly forming the usual paired silvery-white marks; a subcostal streak of pale ochreous ground colour, not obscured or marked, extending from base of wing to apex, extending downwards anteriorly to middle of cell, posteriorly sharply delimited by apical streak; first discal spot large, very irregular, fuscous, connected by some irroration with the second discal spot; this spot conspicuous, deep brown, semicircular, top of anterior arm extended basad by a short strigula; stigma somewhat irregular, oblique, ochreous-white; apical streak dark brown, gradually dilated

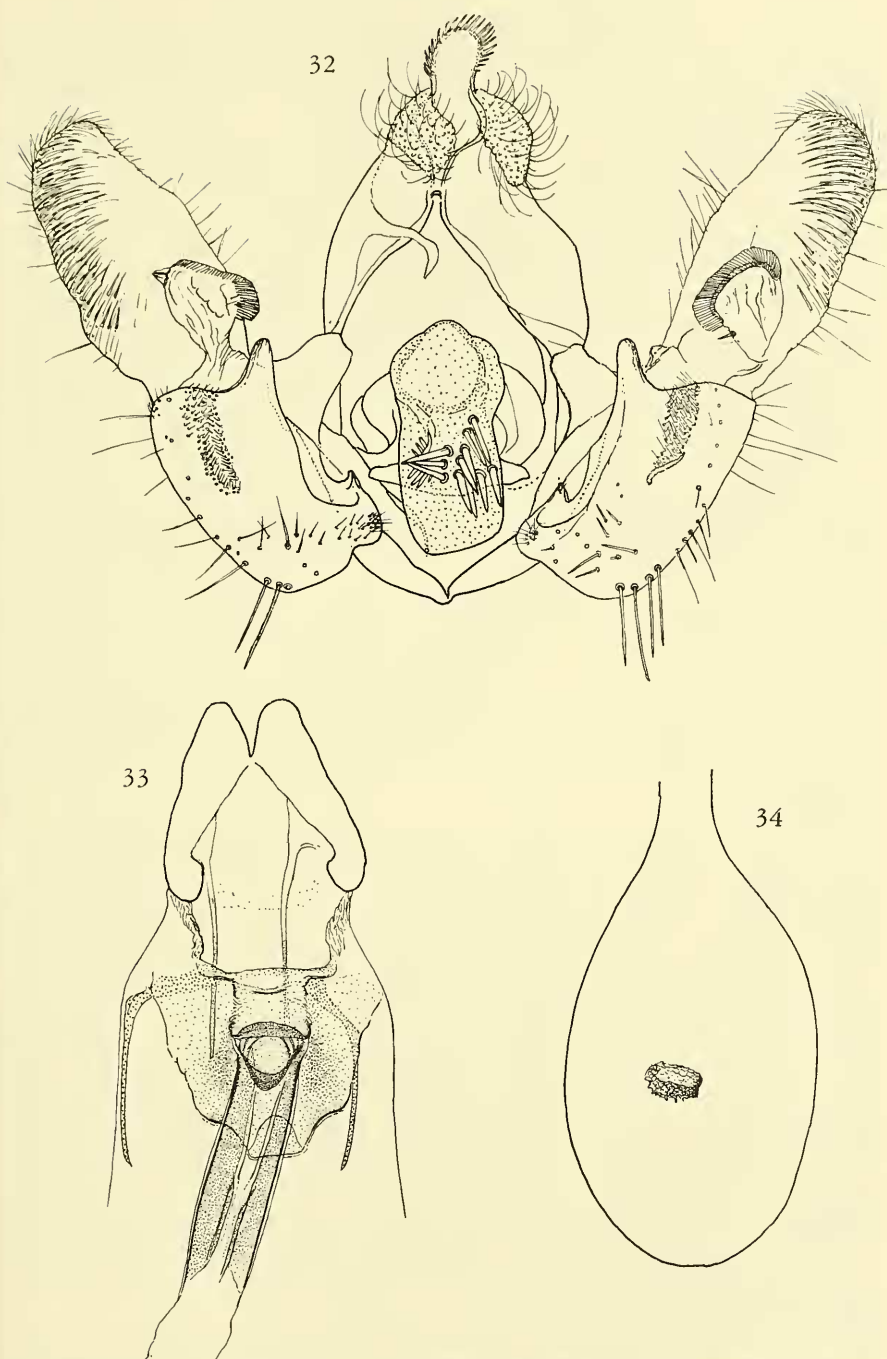


Fig. 32. *Bactra* (*C.*) *tylophora* sp.n., ♂, holotype, genitalia. Fig. 33. The same, ♀, allotype, sterigma and ovipositor. Fig. 34. The same, bursa

posterad, lower edge ill-defined, merging into grey suffusion occupying entire termen as far as cell; this suffusion mixed with tawny and transversely strigulated with brownish, but very faintly; a complete band and a subbasal, a postmedian, and an apical black lines.

Hind wing whitish-ochreous or whitish-tawny, pale, slightly infuscated towards apex. Cilia whitish, infuscated except towards dorsum, with a whitish basal line.

Male genitalia. Tegumen and uncus normal, moderate. Socius rather small. Vinculum erected, V-shaped. Valva with a broad cucullus, costa rounded and prominent beyond base, top narrowed and rounded, a rounded moderate prominence in the middle of lower edge. Valvula rather short but broad, corona, stalk with a slightly oblique dense row of spines. Sacculus thickened and concave, rather simple, outer edge with fine bristles, top rounded-truncate, with a small patch of rather short spines, punctulate area oval, moderate. Juxta rather small. Caulis developed. Aedeagus sclerotized, robust and long. Cornuti, some 6 scattered moderate spines, and a subapical very large patch of extremely dense spines.

South Africa, Transvaal: Nelspruit (C. J. S.), XII.1917 (in MEYRICK's hand), "*Bactra stagnicolana* Zell.", 1 ♂, paratype, gen. no. 3469 (in the British Museum). The same locality, II.1918 (H. G. BREIJER), 2 ♂, paratypes, gen. no. 4242 and 4244. Marieps Mtn., 10.XII.1925 (G. VAN SON), 1 ♂, holotype, gen. no. 4286. The same locality and collector, 5-8.XII.1925, 9 ♂, paratypes, gen. nos. 4388, 4390—4397. 13 ♂.

♀ 11.5—22 mm (allotype 15.5 mm). Head and thorax whitish-ochreous, thorax faintly spotted with grey, a grey subapical spot on each tegula. Palpus abruptly and strongly dilated, roughish; pale ochreous, median segment with a black point in middle of inner edge and a fuscous shadow opposite this on the outer edge. Abdomen light fuscous.

Fore wing suboval, rather broad, costa gently curved throughout, apex pointed, termen straight, oblique. Pale grey or whitish with a distinct bluish-lead gloss. A longitudinal supramedian streak from base to apex, dull creamy-white. Other markings dark fuscous and pale tawny. Costal strigulae distinct, moderate, rather distant from each other (about 9 in total), alternating with minute dark marks, both dark brown; median strigula faintly reaching to second discal spot, penultimate strigula reaching to termen; a black dot in apex; first discal spot distinct, fasciate, transverse, direct, beyond $1/3$, blackish, slightly mixed with olive-tawny; this spot preceded by a series of three similar, blackish spots; second discal spot incomplete, only inner arm being present and forming an oblique blotch, dark fuscous mixed with olive-tawny; stigma suffused, white, small; apical streak incomplete, formed by a small, ill-defined tawny spot beyond cell and a larger one of irregular fuscous suffusion, before termen; ocellar area centred with an elongate transverse dot, cut in two by vein 3; a dark fuscous terminal fascia, attenuated downwards and interrupted between veins 5—7. Cilia dark fuscous, dusted with white.

Hind wing pale grey, extreme apex suffused with darker grey. Cilia concolorous.

Female genitalia. Seventh sternite sclerotized, forming two large oval plates with a hyaline outer edge; their caudal edge is wrinkled, two areas of fine wrinkles flanking the ostium. Ostium small, triangular, simple. Colliculum, a moderate,

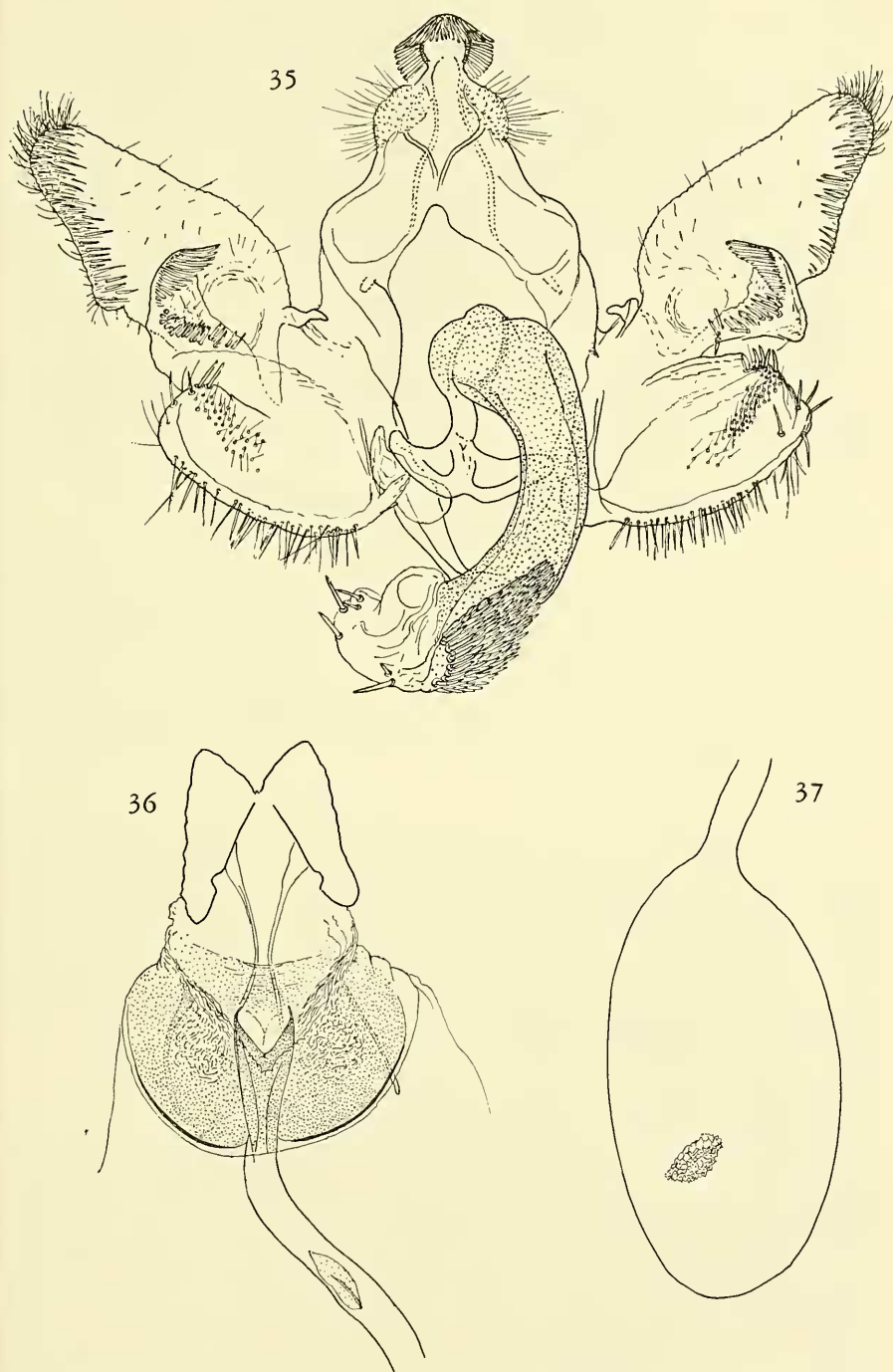


Fig. 35. *Bactra* (C.) *rhabdonoma* sp.n., ♂, holotype, genitalia. Fig. 36. The same, ♀ allotype, sterigma and ovipositor. Fig. 37. The same, bursa

slightly narrowed tube. Cestum, a small oval sclerite. Signum, a shallow basket.

A variable series, as to the colouring as well as to the size. Larger specimens are more tawny-tinged, smaller, pale greyish. The markings are rather similar and appear superficially as a narrow median streak interrupted by the stigma, a very narrow suffusion along costal margin, and the minute ocellar dot.

Material studied. In the British Museum. South Africa, Transvaal: Waterval-Onder, 18.XI.1910 (A. J. T. JANSE) (label in MEYRICK's hand, in MEYRICK Collection), 1 ♀, gen. no. 3613. In the Transvaal Museum. Transvaal: Barberton, 17.I.1911 (A. J. T. JANSE), 1 ♀, allotype, gen. no. 4316. The following are all ♀ paratypes. Natal: Umkomaas, 10.I.1914, gen. no. 4374; 17.I.1914, gen. nos. 4287 and 4457; 24.I.1914, gen. no. 4456 (all by A. J. T. JANSE). Transvaal: Marieps Mtn., 8.XII.1925 (G. VAN SON), gen. no. 4398. 6 ♀.

The species apparently is intermediate between the *coronata* and the *venosana* groups, linking them together; the male seems closer to the latter species, while the female seems related to *coronata* ♀.

Bactra (Chiloides) stagnicolana Zeller, 1852

Figs. 38—41

Bactra stagnicolana Zeller, 1852, Lepid. Micropt. Caffr., p. 84, ("Caffraria"). — Meyrick, 1913, Ann. Transv. Mus., vol. 3, p. 275 (*sicella* Walk., synonym). — 1920, Voyage Allaud & Jeannel, Lep., p. 63 (E. and S. Africa). — Diakonoff, 1958, Ent. Tidskr., vol. 78, suppl., p. 77, text fig. 7, tab. fig. 7 (type redescr., gen. ♂ fig.).

Tortrix stagnicolana: Walker, 1863, List Lep. Het. Brit. Mus., vol. 28, p. 326 (S. Africa).

?*Ancylolomia sicella* Walker, 1866, l.c., vol. 35, p. 1750 (♀, Cape).

?*Aphelia lanceolana* Walsingham, 1881 (nec Hübner), Trans. Ent. Soc. Lond., p. 231 (Natal, Spring Vale, Dec., March, April)

Distribution. South and East Africa.

It is not possible to ascertain whether "*sicella*" is a synonym of *stagnicolana*, because the unique type specimen of WALKER seems to be lost. It could not be located neither in the British Museum nor in the Oxford Museum. Neither am I able at present to make out the identity of the material which LORD WALSHINGHAM studied in 1881. At that time he regarded *Bactra* all over the world as belonging to a single species, *lanceolana*; the three specimens he saw from Spring Vale may have been as many different species.

For a redescription and figure of ZELLER's male holotype may be referred to my earlier paper (1958).

The species is variable; the following types may be discriminated.

(1). Maculate type. The ground colour pale purplish-grey, the markings ferruginous-fuscous. The costal strigulae are numerous and rather slender. The first discal spot rounded, fuscous, across fold at $1/3$; the second distal spot broad, semioval, along lower angle of cell; pretornal mark well defined, moderate, transversely-oval, closer to preceding than to tornus; apical streak almost black, well-defined, running from middle of wing across stigma and more or less obscuring it, to apex; sometimes there is a distinct circular thick brown line from middle of vein 8 to and along lower third of termen; sometimes veins beyond cell more or less narrowly dark-streaked. This is the common type, in males as well as in females.

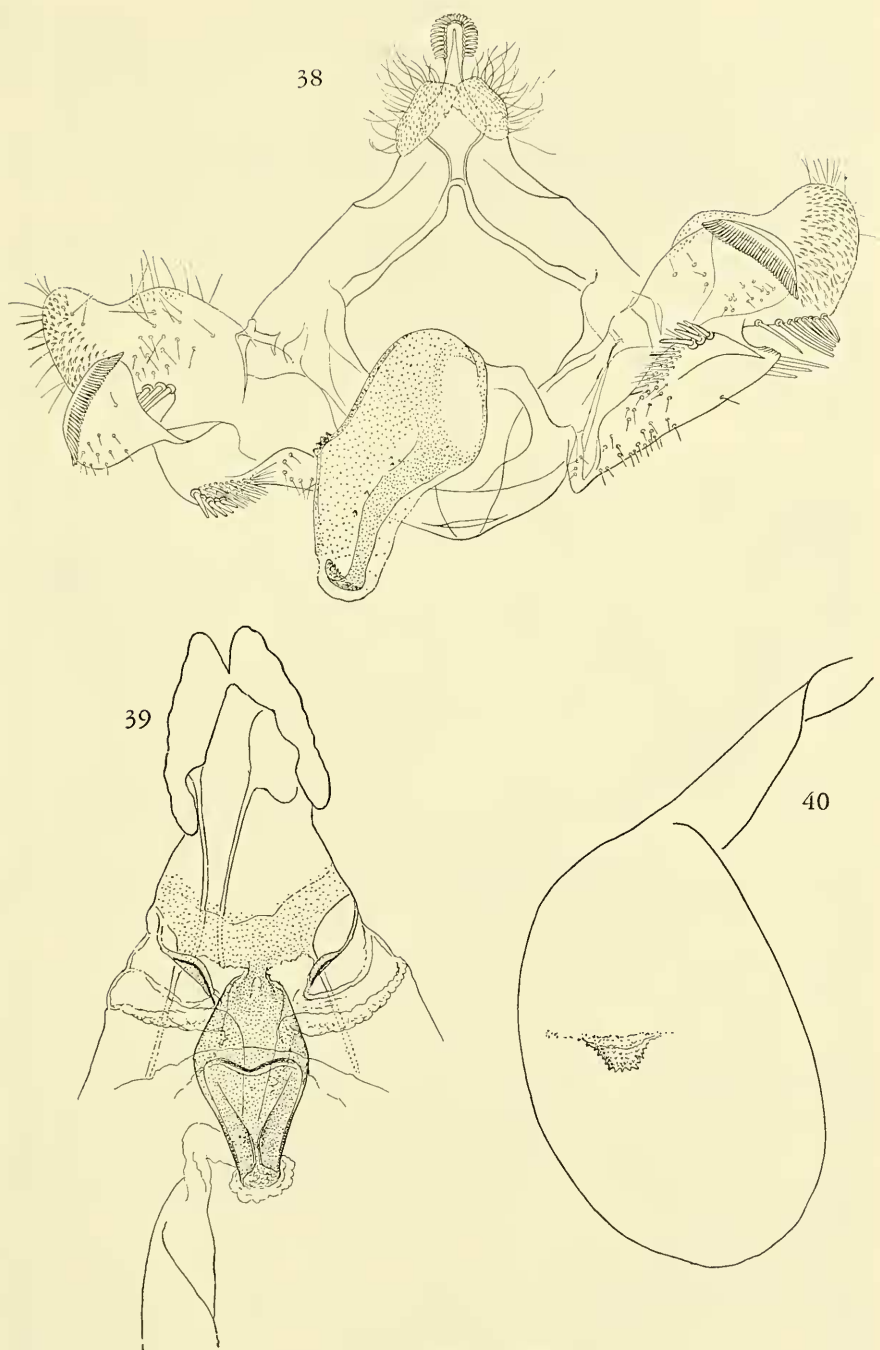


Fig. 38. *Bactra* (*C.*) *stagnicolana* Zell., ♂ holotype, genitalia. Fig. 39. The same, ♀ allotype, ovipositor and sterigma. Fig. 40. The same, bursa

(2). Suffused type, is similar to preceding, but with the wing evenly suffused with dark grey, so that all discal markings disappear and sometimes only marginal strigulae remain; stigma minute, but distinct. Also common in males, less common in females. The holotype belongs here.

(3). Unicolorous type, only females. Pale ochreous, sometimes more or less darker infuscated along edge of wing, with traces of costal strigulae; sometimes also a faint infuscation of centre of disc.

(4). Vittate type, only females. Ground colour pale ochreous, costal markings very short and faint, apical streak dark brown, including the clear white stigma, and connected with the base of wing by a fuscous suffusion along middle of disc; pretornal mark reduced to two short horizontal black strigulae.

Hind wing invariably whitish-ochreous, pale, slightly infuscated towards apex, seldom gently suffused with pale grey all over. Hind wing in female paler than in male.

The female has never been described. Therefore a female neallotype is selected herewith, gen. slide no. 3798. This specimen is of the vittate type, 20 mm, and is labelled thus: Pretoria, 21.XII.1911 (A. J. T. JANSE).

Male genitalia. Tegumen rather broad, lower part rounded, top high and slender. Uncus moderate, slender. Socius normal, rather small. Tuba analis large and distinct. Vinculum strongly dilated at the sides, normal below. Valva broad; cucullus characteristic, broad, with an obliquely rounded top; costa broadly prominent in middle; lower edge of cucullus above the primary incision with a dense corona of long spines and bristles; valvula with a broad top and a moderate stalk; sacculus deeply folded and concave, top forming a short, prominent and serrulate crest; a strongly sclerotized subtriangular tumescence subapical on the inner edge of sacculus, crowned with a group of 5—6 moderate spines, anterad from these a patch of small hairs. Aedeagus peculiar and therefore very characteristic, sclerotized, base spherical, above base aedeagus laterally flattened, broad, narrowed towards top, upper edge with a postmedian prominence bearing three small teeth; ventral side of aedeagus formed by a separated slender sclerite, at top bent sideways and denticulate.

Female genitalia. Lobus analis long and rather narrow, postapophyses long. Eighth segment erected-conical, moderately sclerotized; anapophyses moderately long. Lamella postvaginalis shaped as a moderate transverse band, being the caudal portion of the eighth sternite. Colliculum attached to its middle, very large, spindle-shaped, with slightly strengthened upper wall and below middle thickened walls, in the middle a narrow, strongly sclerotized, lip-like and sinuate transverse fold. Ostium membranous, rather wide. Ductus bursae wide, moderately long. Corpus bursae large, with a finely scobinate wall. Signum moderate, basket-shaped. (Slide figured, 3798).

Material studied. In the British Museum. Comoro Islands: Mayotte (L.), V.1911, 2 ♂ (3523, 3525), 2 ♀ (3522, 3524). Nyassaland: Fort Johnston, (R.) III.1906, 1 ♂ (3616). South Africa, Cape Province: Ceres (R. E. TURNER), III.1925, 1 ♀ (3641). Transvaal: Barberton, VI.1911 (A. J. T. JANSE), 1 ♀ (3463). Natal: Weenen, XII.1926 (H. P. THOMASSET), 1 ♀ (3626). Madagascar: Ampoza, IX.1929 (E. J. WHITE) (B.M. 1930—26), 1 ♀, gen. no. 3075.



Fig. 41. *Bactra* (*C.*) *stagnicolana* Zell., ♂ holotype, part of genitalia, showing the compressed aedeagus (after Diakonoff, 1958). Fig. 42. *B.* (*C.*) *aletha* sp.n., ♂, holotype, genitalia

In the Transvaal Museum. Southern Rhodesia: Bulawayo, Zimbabwe. Transvaal: Pretoria. Natal: Nkweleni, Magude, New Hanover, Karkloof, Umkomaas. Cape Province: Willowmore, Kokstad, Grahamstown, Stella Bush. From October untill June (A. J. T. JANSE, C. J. SWIERSTRA, F. SIMONS, HARDENBERG, C. G. C. DICKSON, G. C. CLARK, J. OMES-COOPER, VAN DER MERWE). 18 ♂, 20 ♀. Gen. nos. ♂ 3790, 3798, 3804, 4232—33, 4237, 4253, 4267, 4294, 4337, 4349, 4351, 4358, 4405—6, 4644 T.M. ♀, 3801, 3805, 4235, 4249, 4250, 4251, 4277, 4297, 4343, 4450, 4471, 4473—74, 4478, 4481.

In Leiden Museum. Mauritius, Moka, 1 ♂, gen. no. 2880; Mauritius, 1 ♂, gen. no. 2892 (J. VINSON).

A big species, often conspicuously dark-coloured (melanistic). Judging from the male genitalia, related with *venosana*.

Bactra (Chiloides) *punctistrigana* Mabille, 1900

Figs. 43—45

Bactra punctistrigana Mabille, 1900, Ann. Soc. ent. France, vol. 68 (1899), p. 751 (Madagascar). — Viette, 1947, Mem. Inst. Sci. Madagascar, ser. A, vol. 1, p. 54. — 1954, *ibid.*, ser. E, vol. 5, p. 379 (lectotype select.). — Diakonoff, 1959, Rev. franç. Ent., vol. 26, p. 177, figs. 20—21, t. 2 fig. 10 (type redescr., fig.).

Distribution. Madagascar.

For the description of the female type specimen may be referred to my above cited paper (1959). That specimen is melanistic, while the female specimen at hand (gen. no. 4234) is brighter coloured and marked. It may be redescribed thus.

♀ 20 mm (right pair of wings missing). Head pale ochreous, thorax greyish-tawny (palpi missing). Abdomen light fuscous. Fore wing slightly broader than in the type, dilated, costa gently curved, apex pointed, termen distinctly sinuate, little oblique. Pale ochreous, rather densely suffused with fuscous-grey, except a pale streak between cell and costa; costa narrowly dark fuscous, transverse markings pale ochreous; median longitudinal fascia interrupted anteriorly, grey-fuscous and cloudy along cell, ill-defined, posteriorly forming a dark brown, well-defined apical streak; stigma, small white, rounded; a dark brown terminal fascia, rather broad, attenuated below, almost interrupted between veins 5—6; a longitudinal dark brown mark in centre of ocellus. Cilia pale tawny with a whitish basal line and a postmedian dark line, on lower part of termen and in tornus cilia unicolorous light tawny.

Hind wing ochreous-whitish with a silky gloss. Cilia glossy, creamy.

Female genitalia are described in my 1959 paper. They show such a close resemblance to those of *venosana* that at first I regarded MABILLE's species as a subspecies of the former, no males being available at the time. Now I am satisfied that *punctistrigana* is a perfectly distinct species, although closely related with *venosana*, as the genitalia of the two sexes show.

Material studied. South Africa, Southern Rhodesia: Zimbabwe, 6-10.IV.1934 (A. T. J. JANSE), 1 ♀, gen. no. 4234. Madagascar: Sumbiran Plantation, 1911 (R.), MEYRICK Collection (in the British Museum), 1 ♀ gen. no. 3615.

♂ neallotype, 19 mm. Head and thorax dark fuscous, metathorax silvery-grey. Palpus rather long, strongly dilated triangularly, densely and tolerably smoothly scaled; dark fuscous, terminal segment almost entirely concealed. Abdomen glossy greyish-white.

Fore wing oblong-subtruncate, costa rather strongly curved along anterior half, straight along posterior, apex subobtuse, termen hardly concave, almost straight, little oblique. Dark fuscous, markings faint, ferruginous. Costa with numerous little curved transverse strigulae edged on both sides and accentuated with faint leaden-purplish; costal strigula at $\frac{4}{5}$ of costa longer than other, straight, almost to termen below apex; a ferruginous terminal streak, along extreme margin of

wing finely dusted with whitish. Cilia with basal half dark fuscous, apical half paler fuscous, base with a narrow pale line, a postmedian blackish line.

Hind wing glossy pale greyish, posterior half slightly infuscated, apex darker suffused with grey. Cilia glossy pale grey, base with a narrow dull ochreous line, followed by a dark grey band.

Male genitalia. Of the *venosana* type. Tegumen high and rather narrow. Socius large. Tuba analis perceptible. Vinculum, a strong, broad band, mesially rounded-prominent, smooth. Valva broad. Cucullus broad, broadest above base, top oblique and attenuated, costa being strongly sinuate. Sacculus extremely large, extended and deeply impressed from the outside, so that it is not possible to open and flatten both valvae without dislocating them; outer surface smooth except for an extremely dense basal patch of strong slender spines, upper angle of the inner edge of sacculus with a short, curved blade; inner surface with a narrow strip of punctulations (in left valva showing through, in right plainly visible), and a continuation of the basal patch of spines, partly on an elevated short ridge. Juxta and caulis strong. Aedeagus long and curved, with a slender longitudinal sclerite dorsally, on the right side beset with strong cornuti.

Material studied. Central Madagascar: Imerina Plateau, Tsimbazaza Park, 1200 m, 11.I.1952 (P. VIETTE), 1 ♂, neallotype, gen. no. 2611. In the Paris Museum. Unique.

Obviously this is the sex partner of the species of which the female was described by MABILLE. The facies, colouring, locality, and above all the character of the ♂ ♀ genitalia point in this direction.

Bactra (Chiloides) venosana (Zeller, 1847)

Phoxopteris venosana Zeller, 1847, Isis, p. 738.

Aphelia venosana: Herrich-Schäffer, 1849, Syst. Bearb., vol. 4, p. 244.

Bactra venosana: Rebel, 1901, in Staudinger & Rebel Catal., vol. 2, p. 113. — Kennel, in Spuler, 1910, Schmett. Eur., vol. 2, p. 273. — Kennel, 1910, Pal. Tortr., p. 472, t. 18 fig. 73. — Diakonoff, 1956, Zool. Verh. no. 29, p. 33, figs. 31—33.

Bactra (Chiloides) venosana: Diakonoff, 1956, Zool. Verh., no. 29, p. 33, figs. 31—33. — 1959, Bijdr. Dierk., part 29, p. 184 (Palestine, Sardinia). — 1963, Ann. Mus. Wien, vol. 67 (in press; *banosii*, *truculenta* syn.).

Bactra truculenta Meyrick, 1909, Journ. Bombay Nat. Hist. Soc., vol. 19, p. 586. — 1922, Exot. Microl., vol. 2, p. 521. — Meyrick in Caradja, 1934, Iris, vol. 48, p. 33. — 1935, Mater. Microl. chin. Prov., p. 57. — Diakonoff, 1950, Bull. Brit. Mus., Ent., vol. 1, p. 289, t. 5 fig. 16, t. 7 fig. 30. — 1956, Zool. Verh., no. 29, p. 27, figs. 28—30. Syn. nov.

Bactra (Chiloides) truculenta: Diakonoff, 1956, Zool. Verh., no. 29, p. 27, figs. 28—30. — 1959, Bijdr. Dierk., part 29, p. 184.

Bactra scythropa Meyrick, 1911, Proc. Linn. Soc. N.S. Wales, vol. 36, p. 284.

Bactra geraropa Meyrick, 1932, Exot. Microl., vol. 4, p. 147.

Bactra banosii Gozmany, 1960, Ann. hist.-nat. Mus. Hung., vol. 52, p. 416, figs. 3A-D. Syn. nov.

Distribution. Northern Africa, Southern Europe, Southern Asia, Pacific, Australia.

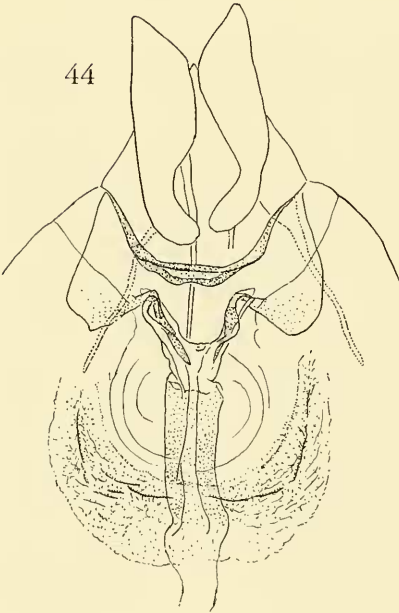
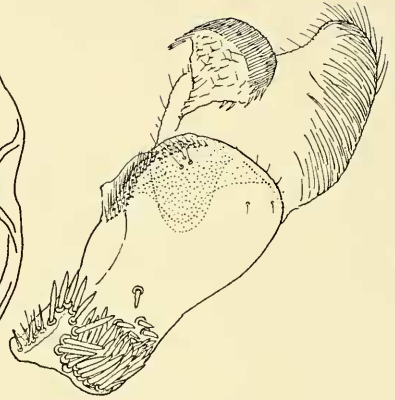
Bactra (Chiloides) trimera spec. nov.

Figs. 55—57

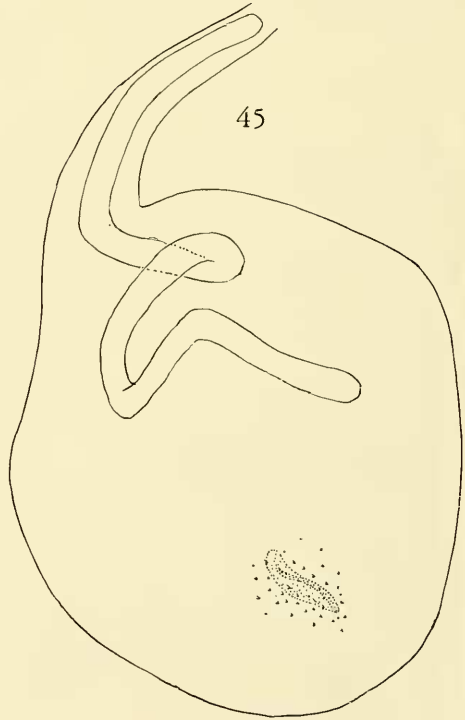
♂ 13—16 mm (holotype 16 mm). Head, palpus and thorax creamy-whitish,



43



44



45

median segment of palpus with an oblique rather narrow light fuscous transverse fascia; lower edge of palpus roughish. Abdomen fuscous.

Fore wing elongate, dilated, broadest beyond $3/4$, costa gently curved at extremities, rather straight in middle, apex obtusely pointed, termen gently sinuate above, little convex below, oblique. Glossy whitish, suffused with pale tawny. Markings dark fuscous. Costal edge dark fuscous, broken in numerous short marks by pairs of thick pale transverse strigulae, along posterior portion of costa becoming silvery; first discal spot longitudinally extended, ill-defined, irregular-oblong or fasciate, from well beyond base towards second discal spot, but twice interrupted before latter; second discal spot rather well-defined, V-shaped, anterior arm broader; stigma moderate, white; apical streak short, black, from below apex halfway towards cell, edged above with grey; some grey suffusion below this streak, reaching to cell and more or less extending over terminal part of wing; ocellar area centred with a wedge-shaped, ill-defined mark parallel to termen, cut twice by black; apex with a dark brown dot; a dark brown terminal line: a transverse narrow preapical line, from penultimate dark costal space to termen below apex. Cilia dark fuscous dusted with pale ochreous, with three dark lines.

Hind wing creamy-white, more or less suffused with pale grey, more so on posterior half, deeper suffused towards apex.

Male genitalia. Tegumen high. Uncus moderate, curved. Socius rather large. Vinculum moderate, smooth. Cucullus long, moderately broad, bent and slightly sinuate over its whole breadth at $1/3$ of length, not narrowed, top gradually rounded; valvula rather long, stalk swollen in middle, top bent, corona rather small; sacculus concave, strongly flattened dorso-ventrally, top subobtusely with strong unequal spines, three right, two left, an external submarginal row of short and slender bristles, internal flattened side with a large patch of long spines at and above outer lower angle and a second smaller but much denser patch of smaller spines proximad of the first; haired area from below apex of sacculus to spine patches, narrow above, in a shallow depression, flanked by two rounded prominences of the inner edge of sacculus; this hairy area much extended below. Aedeagus moderate, strongly sclerotized, moderately attenuated and curved, without cornuti.

The rather pale species makes a superficial impression of having three longitudinal slender dark stripes: costal, median, and dorsal. The five males available are rather uniform, one somewhat more distinctly marked than the other. Male no. 4264, however, has a fine and sharp dark fuscous marbling upon pale ground, with veins marked by fine dark lines ("tigroid" type of markings).

Material studied. South Africa, Transvaal: Minastone (= Louis Trichardt), 16-25.II.1919 (H. G. BREIJER), 1 ♂, holotype, gen. no. 4240. Paratypes: Transvaal: Waterval-Onder, 10.XI.1910, 1 ♂, gen. no. 4321. Natal: Nkweleni, 10.I.1916, 1 ♂, no. 4463 (both: A. J. T. JANSE). Transvaal: Marieps Mtn., 3.I.1926 (G. VAN SON), 1 ♂, no. 4389; Cape Province: Umtata, 20 miles E, 8-11.I.1931 (A. J. T. JANSE), 1 ♂, no. 4264. 5 ♂.

Fig. 43. *Bactra* (C.) *punctistrigana* Mab., ♂ neallotype, genitalia. Fig. 44. The same, ♀ holotype, sterigma and ovipositor. Fig. 45. The same, bursa. (Figs. 44 and 45 after Diakonoff, 1959).

♀ 18—20 mm (allotype 18 mm). Head, palpus and thorax pale ochreous-tawny, palpus spotted with pale grey laterally. Abdomen fuscous.

Fore wing oblong, moderately broad, little dilated, costa gently curved throughout, apex subobtusate, termen tolerably straight, oblique. Pale ochreous-tawny, in disc moderately suffused with that colour; costal strigulae numerous, on costal edge dark brown; those along posterior part of costa tending to form sinuate transverse strigulae, anterior reaching to dorsum before tornus, posterior strigulae running to termen; a small pale spot on costa before apex; first discal spot before $1/3$, arrowhead-shaped, preceded by several irregular smaller spots along and around fold; second discal spot very narrow, fasciate and transverse, with a strigula along closing vein, stigma absent; a suffused tawny terminal streak attenuated above, edged along extreme margin of wing with dark brown dusting; a series of dark brown dots along dorsum. Cilia dark fuscous, finely dusted with pale ochreous, with a narrow whitish basal line.

Hind wing glossy whitish-golden, cilia concolorous.

Female genitalia resembling those of the Asiatic *optanias*. Sterigma strongly sclerotized, forming a convex subtriangular, rather three-lobed plate; also the eighth tergite is sclerotized. Ostium bursae rather ill-defined, its outer rim sclerotized and curved. Colliculum asymmetrical, strong, clavate. Signum rather small, basket-shaped.

Material studied. South Africa, Natal: Mtunzini, 30.XI.1953 (L. VÁRI), allotype, gen. no. 4378. Umkomaas, 15.I.1914 (A. J. T. JANSE), 1 ♀, paratype, gen. 4305. Cape Province: Kleinmond, IV.1942 (V. G. DICKSON), 1 ♀, paratype, gen. 4296. Pt. St. Johns, 1-7.I.1931 (A. J. T. JANSE), 1 ♀, paratype, gen. 4375.

The female is rather larger than the male. The genital characters strongly suggest that the sexes belong together, in analogy with the nearest allied Asiatic species, *Bactra* (C.) *optanias* Meyr.

Bactra (Chiloides) *aletha* spec. nov.

Fig. 42

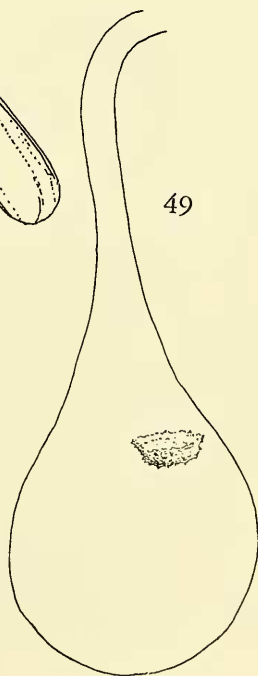
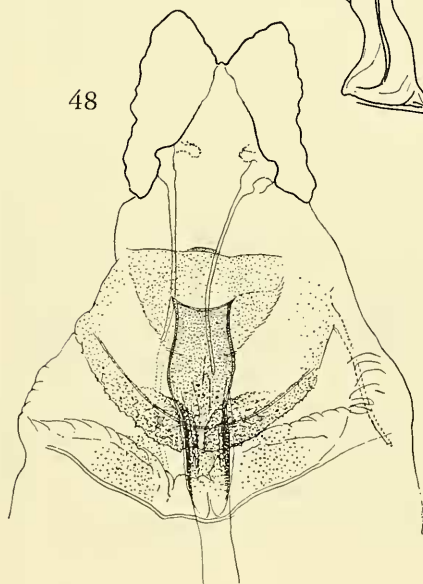
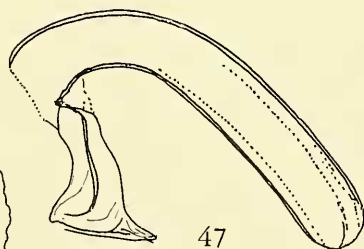
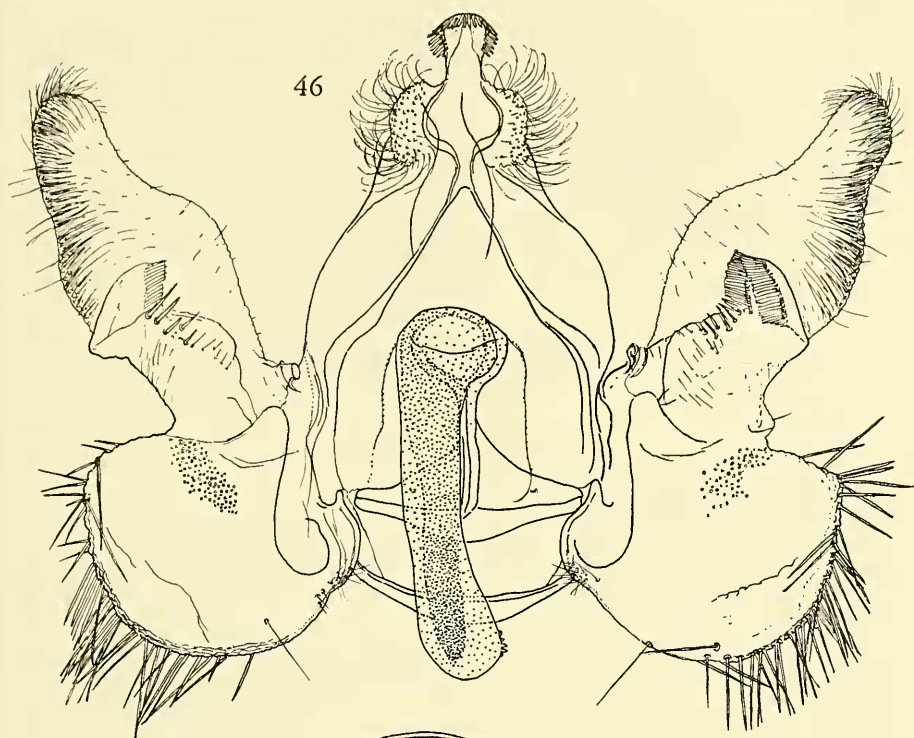
♂ 11.5 mm. Head, thorax and palpus fuscous (rubbed!). Abdomen sordid whitish.

Fore wing oblong, rather narrow, costa gently curved anteriorly, hardly curved posteriorly, apex moderately pointed, slightly projecting, termen distinctly sinuate, little oblique. Pale fuscous, clouded with darker (strongly rubbed). Cilia lacking.

Hind wing pale greyish. Cilia missing.

Male genitalia. Belong to the type of *boschmai* Diakonoff. Tegumen high. Uncus short and rather broad. Socius moderate. Vinculum strong, V-shaped. Valva rather slender. Cucullus slender and long, not dilated, costa not prominent, top rounded; spines small. Valvula rather short, ventral edge with 3—6 rather strong spines. Sacculus strongly concave, strongly bent rectangularly at base, inner edge emarginate in middle, strong and partly beset with long bristles, its upper angle

Fig. 46. *Bactra* (C.) *fasciata* sp.n., ♂ holotype, genitalia. Fig. 47. The same, paratype, aedeagus in lateral aspect, gen. no. 3459. Fig. 48. The same, ♀ allotype, sterigma and ovipositor. Fig. 49. The same, bursa



forming an acute strong cusp (not so long as in *clarescens* or in *boschmai*); top of sacculus with 5—6 strong spines of moderate length; base of sacculus with a group of robust shorter spines. Juxta and caulis robust. Aedeagus long, curved. Cornuti apparently absent.

Material studied. West Africa: Kumasi, IX.1911—IV.1912 (J. D. G. SANDERS), 1912—481, 1 ♂, holotype, gen. no. 3635. Unique. (In the British Museum).

Although the small insect is badly rubbed, the genitalia are distinct and allow description.

Belongs to the *boschmai* group of species.

***Bactra (Chiloides) salpictris* spec. nov.**

Figs. 53—54

♀ 13—15 mm. Head, thorax creamy. Palpus whitish, with a finest dark dusting. Abdomen pale ochreous.

Fore wing oblong, suboval, pointed, termen hardly sinuate, oblique. Creamy, with a golden gloss, suffused in disc rather bright ochreous. Markings ochreous and tawny, becoming dark brown on edges of wing. Costa with the usual strigulae, very short along anterior half, zigzagged along posterior half, forming some reticulation or marbling in terminal portion of wing; these markings more or less interrupted by a longitudinal streak of pale ground colour running along upper edge of cell and thence to costa before apex; a little distinct median longitudinal streak from base to termen, formed by ochreous suffusion and markings beyond cell; terminal area also suffused with pale leaden-grey; first discal spot narrow, fasciate, transverse, second discal spot small, irregularly semicircular, suffused, enclosing a very small white stigma; a dark terminal line, an ochreous strigula before apex; a black dot in apex. Cilia whitish sprinkled with dark brown or purplish, and with a submedian and an apical dark lines.

Hind wing white, slightly suffused with pale ochreous and greyish towards apex and costa posteriorly. Cilia whitish, grey opposite apex.

Female genitalia. Eighth sternite, a broad, sclerotized band. Ostium bursae, a pear-shaped large opening extending almost over the breadth of the band; further not modified. Colliculum very large and tubular, sclerotized, lower half with a longitudinal median split, with less sclerotized sides. Signum, a large, shallow denticulate cup. A pair of peculiar small sclerites apparently belonging to the anal opening, are visible between the lobi anales.

Material studied. South Africa, Cape Province: Pt. St. Johns, 1-7.I.1931 (A. J. T. JANSE), 1 ♀, holotype, gen. no. 4303. Umtata, 20 miles E, 8-11.I.1931 (A. J. T. JANSE), 1 ♀, paratype, gen. no. 4366. 2 ♀.

The paratype is dark, brown-fuscous, a stripe of tawny-ochreous colour from base to apex, occupying the costal third of wing except the extreme costal edge.

The exact position of the species is uncertain without the knowledge of the males. It may belong to the *boschmai* group and then be nearest to *aletha*.

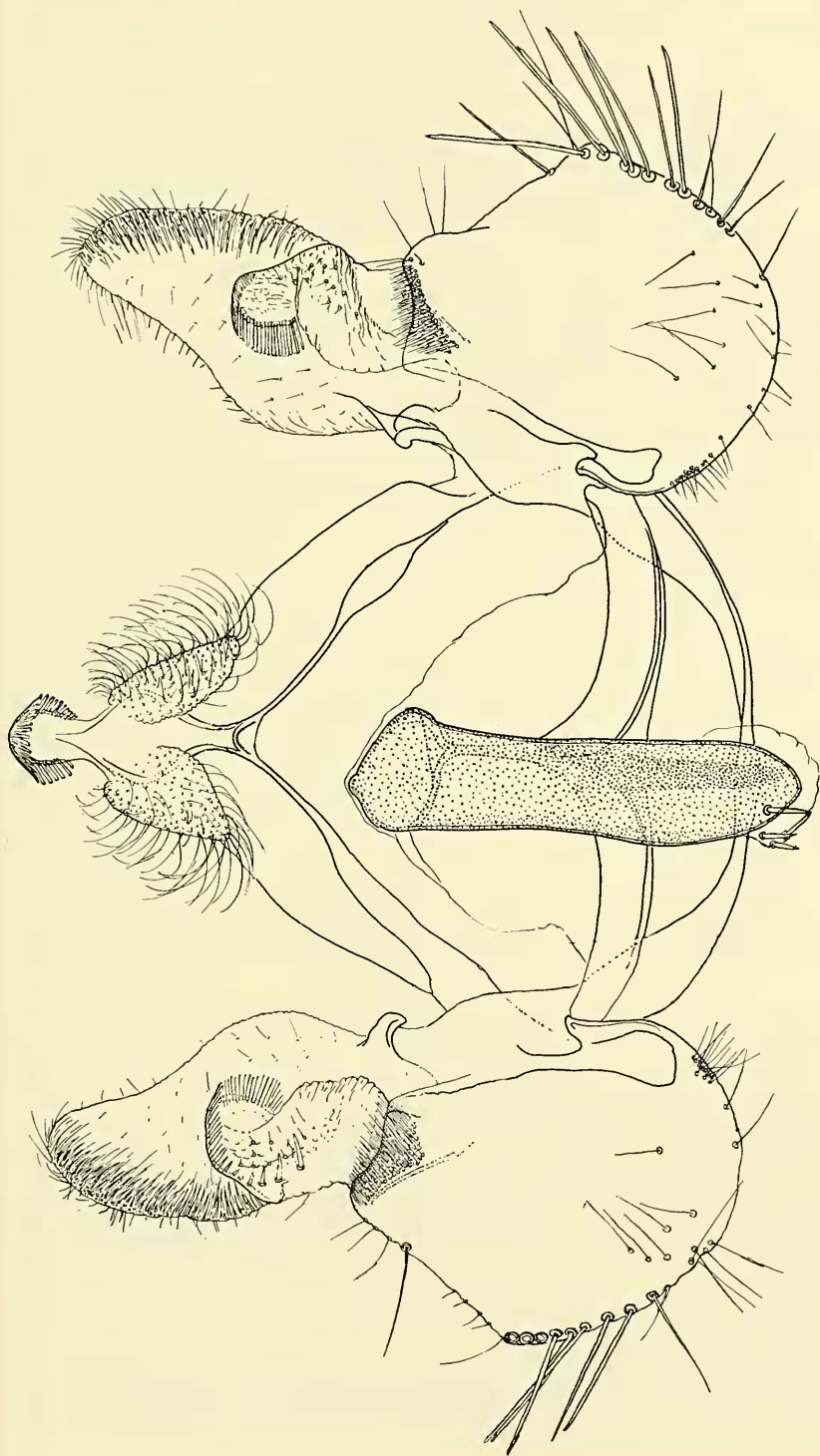


Fig. 50. *Bactra (C. sinassula) sp.n.*, ♀, holotype, genitalia

Bactra (Chiloides) fasciata spec. nov.

Figs. 46—49

♂ 15.5 mm. Head pale ochreous, face and vertex roughly scaled, scales divided along middle of face. Palpus thickened, obtuse; pale ochreous above and internally, dark fuscous elsewhere. Thorax pale ochreous with two pairs of faint fuscous marginal spots, tips of tegulae fuscous. Abdomen pale ochreous, anal tuft dark fuscous-grey.

Fore wing elongate-suboval, rather broad, dilated, broadest at $2/3$, costa considerably curved, strongly at base, apex moderately pointed, termen gently sinuate, concave above, oblique. Pale leaden-grey mixed with whitish, partially suffused with pale ochreous. Anterior half of costa darker leaden-grey, with several slender dark fuscous strigulae edged with ochreous suffusion; posterior half of costa with four pairs of oblique white strigulae, ultimate pair longest, followed by a vertical single white bar and then by a white smaller triangular dot just before apex; these white markings converging in one point below costa; anterior half of wing suffused with pale tawny-ochreous and mixed with some deeper tawny spots; first discal spot blackish-brown, bent, transverse, across fold just beyond $1/3$, obtusely pointed posteriorly and rather irregular; second discal mark fasciate, from middle of wing, encircling lower half of stigma, thence to apex, thus giving rise to a conspicuous apical streak; stigma transverse, conspicuous; apical streak edged above by a strongly contrasting white streak, from $2/5$ of disc, gradually dilated to preapical costal white spot, faintly traversed by minute ferruginous interneural lines and by two transverse similar lines from costa between the second and third and third and fourth pairs of white strigulae; the latter two lines gradually curving across wing to $2/3$ and $1/2$ of termen, respectively, merging there in a dark brown terminal line; ocellar area large, oval, leaden-grey centred with a brown obliquely-oval dot. Cilia dark grey, slightly dusted with white, with a fine white basal line and three black lines alternating with white.

Hind wing dirty whitish, touched with grey towards apex, veins slightly darker ochreous, cubital pecten grey. Cilia pale fuscous with a darker fuscous subbasal shade.

Male genitalia. Tegumen high. Uncus moderately long, slender. Socius moderate. Vinculum strong, flattened, smooth. Valva long; cucullus with a slender top and base, dilated in middle, costa prominent above middle. Valvula with a long, swollen stalk which has a rounded prominence in middle, and a series of moderate spines, decreasing in size basally; top of valvula moderately broad; sacculus strongly dilated and flattened, semicircular, moderately concave, simple; a small patch of punctulations above centre and a dense corona of long and slender spines along outer edge. Juxta small and strong. Aedeagus very long, hooked downward, sclerotized.

♀ 13—19 mm (allotype, 16 mm). Head, palpus, and tegula as in male, thorax tawny. Abdomen ochreous-fuscous.

Fore wing slightly narrower and longer, otherwise of the same shape, costa slightly less curved, apex and termen similar. Markings of the allotype which is slightly rubbed, are similar, except that the ground colour appears paler, whitish,

perhaps due to rubbing, while there is never a trace of the ocellus nor of its central dark dot.

Hind wing similar to that in male, apex variably suffused with greyish.

Sometimes the entire wing in the female suffused with bright ochreous-tawny, apical streak deep brown, connected with base of wing by a suffused fuscous streak, containing a dark fuscous first discal spot; stigma conspicuous (e.g., ♀ paratypes nos. 3794, Karkloof, and 3646, Kimbolton).

Female genitalia. Lobus analis triangular, pointed, inner edge below middle with an excision. Postapophyses long and slender, anapophyses considerably shorter. Sterigma moderately sclerotized mesially, margin of sclerotization ill-defined towards rostral edge which is triangular-truncate; above this edge a gradually curved strong tubular fold with irregularly denticulate structure. Ostium shaped as a triangular funnel, sclerotized; colliculum, a strong tube, beginning immediately below the edge of the rather small lamella antevaginalis, calyciform above, with thin wall, cylindrical below, with thicker wall. Cestum present, a small triangular sclerite. Corpus bursae normal. Signum basket-shaped, rather shallow.

Material studied. South Africa, Transvaal: Pretoria, 30.I.1910, holotype, ♂, gen. no. 4295; allotype, ♀, 31.I.1910, gen. 4273. Paratypes, the same locality, 29.II.1907 (2904 ♂); 25.III.1910, gen. no. 3459 ♂ (British Museum); 27.I.1910, (4284 ♂); 29.II.1909 (4274 ♂); 8.I.1910 (4239 ♂); 12.II.1910 (4276 ♂); the same locality, 28.II.1910 (4275 ♀); 20.III.1909 (4288 ♀) (A. J. T. JANSE). Nelspruit, 1 ♂, XII.1917 (4238) (H. G. BREIJER). Natal: Weenen, Kimbolton Estcourt, 1892, 1 ♂, gen. no. 3640; 2 ♀ 3645 and 3646 (HITCHINSON) (British Museum). Nkwaleni, 2 ♂, 10.I.1916, 4285 and 12.I.1916, (4272); 2 ♀, 10.I.1916, 4268 and 4269 (A. J. T. JANSE); Magude, IV.1918 4293 ♂ (C. J. SWIERSTRA). Karkloof, 11.I.1917, 1 ♀, 3794 (A. J. T. JANSE). Indaleni, II.1951 1 ♀, 4231 (J. W. HUNT). Cape Province, Umtata, 20 miles E, 8-11.I.1931, 1 ♂, 3793; 1 ♀, 3799 (A. J. T. JANSE). In total 12 ♂, 10 ♀.

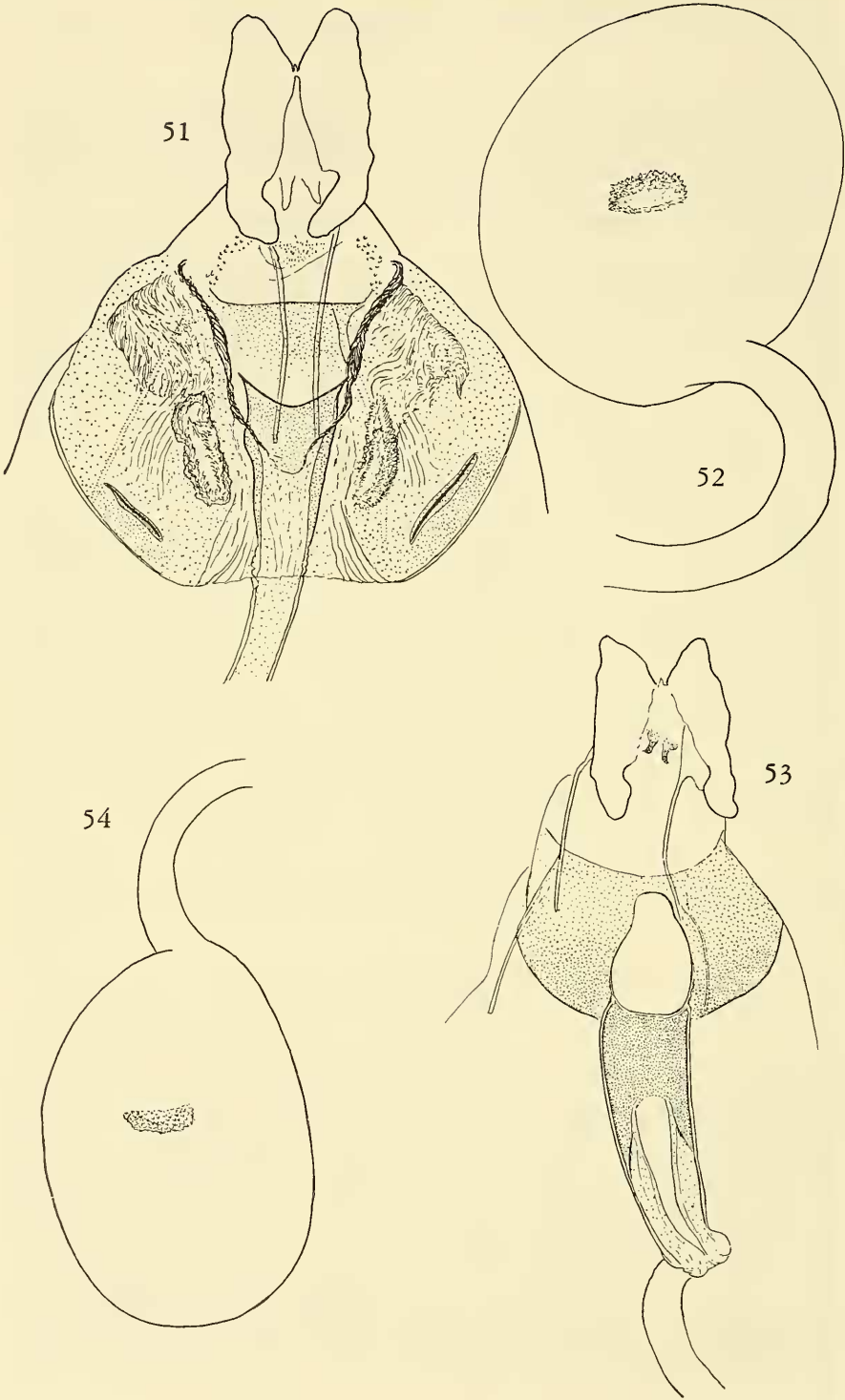
Allied with *B. (C.) coronata* Diak., from Java, Borneo and the Philippine Islands.

Bactra (Chiloides) sinassula spec. nov.

Figs. 50—52

♂ 19—21 mm (holotype 18 mm). Head and thorax tawny-fuscous; palpus rather long, abruptly dilated; tawny, infuscated. Abdomen fuscous.

Fore wing oblong-subtriangular, costa gently curved at extremities, apex pointed, termen clearly sinuate, oblique. Rather pale glossy purplish-fuscous. Markings fine, dark fuscous, partly edged or suffused with tawny-olive. Costal markings narrow, dark, along anterior half short, along posterior very slender, termen from apex to dorsum with a dark fuscous line; first discal spot indistinct, represented by a whole series of transverse fuscous marks more or less interconnected so as to form zigzag marks, second discal spot obliterate; all veins on posterior half of wing very finely streaked with dark fuscous; upper half of posterior portion of cell rather distinctly filled out with brighter tawny-ochreous; entire wing with



minute transverse strigulae between the veins. Cilia (imperfect) concolorous, with an antemedian fuscous line.

Hind wing pale fuscous becoming whitish towards dorsum; deeper fuscous towards apex. Cilia glossy whitish-fuscous.

Male genitalia. Tegumen and vinculum very broad, the latter smooth. Valva with cucullus moderately broad, sinuate, costa strongly prominent and rounded beyond base, top of cucullus gradually narrowed, spines moderate. Valvula rather long with blown up stalk, bearing some five spines below the corona which gradually become longer. Saccus extremely large, over $1\frac{1}{2}$, dilated and extended, lower edge gradually rounded, its outer half with a single row of very long, slender spines; punctulate area small, at the base of valvula. Juxta very broad. Caulis moderate. Aedeagus long, sclerotized, bent downward.

The series is rather variable. One paratype (4482) is paler, suffused with tawny-olive and tawny-ochreous, with a whitish-ochreous faint suprmedian streak from base to apex, along fold edged below with cloudy dark fuscous suffusion. Two males (3802, 3803) are melanistic, more or less densely infuscated throughout. Finally the male no. 4252 is similar to the type but has a distinct second discal spot and indications of a pale stigma.

Material studied. South Africa, Transvaal: Pretoria, 15.XII.1911 (A. J. T. JANSE), holotype, ♂, gen. no. 4472. The same locality and collector, I.1918, 1 ♂, paratype, no. 3602; the same, 16.II.1909, 1 ♂, paratype, gen. no. 3803. Natal: Magude, IX.1918 (C. J. SWIERSTRA), 1 ♂, paratype, gen. no. 4399; the same locality and collector, X.1918, 1 ♂, paratype, gen. no. 4252. Also one ♂, paratype: British East Africa (F. THOMAS), gen. no. 4482 (in the Vienna Museum). 6 ♂.

♀ 16—20 mm (allotype 19 mm). Head and thorax in middle creamy, laterally and on tegulae suffused with very pale fulvous-tawny. Palpus pale tawny with a whitish base and an oblique median dark grey shade. Abdomen fuscous.

Fore wing oblong, rather narrow, costa gently curved at base, apex pointed, termen sinuate, oblique. Pale ochreous, markings tawny, fuscous, and dark brown. Costa with a series of fine and short dark brown strigulae. An ill-defined longitudinal median suffusion, greyish-fuscous mixed with tawny and dark brown, extending to above dorsum; on anterior half this suffusion cut by several brown ill-defined inwards-oblique marks, anterior three of these representing the first discal spot; second discal spot shaped as some faint dark edging to lower half of stigma, which is white and little contrasting; the median streak considerably dilated and brighter tawny-brown beyond the cell; a pale creamy streak above cell from its middle to apex; veins finely streaked with brown; termen with a dark brown line; dorsum with a series of dark brown dots. Cilia tawny, strongly dusted with creamy, a subapical and an apical dark brown lines.

Hind wing and cilia glossy, creamy-white.

The series is rather variable, one specimen brighter pale ochreous with more

Fig. 51. *Bactra* (*C.*) *sinassula* sp.n., ♀, allotype, sterigma and ovipositor. Fig. 52. The same, bursa. Fig. 53. *B. (C.) salpictris* sp.n., ♂, holotype, sterigma and ovipositor. Fig. 54. The same, bursa

extended costal strigulation and median streak brighter tawny ochreous; two other specimens more greyish-fuscous tinged, with a darker but interrupted median streak, containing one or both discal spots.

Female genitalia. Sterigma sclerotized, strongly folded at the sides, two longer folds flanking the ostium bursae which is calyciform and wide, with a pair of short parallel folds on each side above extensions of the edge of ostium. Colliculum, a very strong, straight tube, gently dilated above, with strongly thickened walls below dilatation, and complicated structures of the inner surface. Anapophyses are short, with peculiar rectangularly bent bases. On each side of the colliculum there is an oval tumescence. Postapophyses very long and slender. Signum large, basket-shaped.

Material studied. South Africa, Transvaal: Pretoria, 13.I.1916 (A. J. T. JANSE), 1 ♀, allotype, gen. no. 4270. Natal: Bela Vista, XI.1916 (C. J. SWIERSTRA), 1 ♀, paratype, gen. no. 4236; Tanganyika: Victoria Falls, 26.I.1918 (Coll. JANSE), 1 ♀, paratype, gen. no. 4291.

Comoro Ids.: Mayotte (L.), V.1911 (in MEYRICK's hand), 1 ♂ paratype, gen. no. 3600 (in MEYRICK Collection, in the British Museum).

It seems very likely that the sex partners are correctly chosen because the long and sclerotized aedeagus corresponds with the long colliculum.

A large and robust species, belonging to the *coronata* group.

***Bactra (Chiloides) triceps* spec. nov.**

Figs. 58—60

♂ 15—17 mm (holotype 15 mm). Head sordid whitish, tinged creamy, tuft on vertex, which is rough and high, mixed with fuscous-tawny laterally. Palpus strongly dilated, with rough edges, fuscous-grey externally, creamy inside, terminal segment very slender, grey. Thorax pale ochreous, regularly spotted with fuscous, metathorax with a silvery gloss. Abdomen fuscous.

Fore wing oblong, little dilated, moderately broad, costa gently curved, more so along posterior half, apex rather obtuse, termen gently convex, almost straight, little oblique. Ochreous-white, with a faint gloss, partially clouded with pale fuscous-grey. Markings dull, ferruginous and dark fuscous. A conspicuous streak of pale ground colour from beyond base to above apex, rather well-defined, occupying about $\frac{1}{6}$ of wing breadth, gradually attenuated at extremities, running along upper edge of cell; remainder of wing clouded; costa along posterior part with distinct ferruginous little oblique strigulae, delimited by the white streak, along anterior part of costa obliterated; median longitudinal fascia irregular but complete, from base to apex, dark fuscous, obscuring discal markings; first discal spot discernible, second discal ill-defined, followed by two roundish dark brown suffused spots between cell and termen; an oblique-oval moderate spot forming the centre of ocellus; a narrow slightly undulate or dentate terminal streak, above connected by a curved slender line with costa. Cilia grey, with several faint darker lines, in tornus pale ochreous-grey, along costa pale ochreous.

Hind wing sordid whitish-ochreous, with a moderate gloss, slightly infuscated towards apex. Cilia pale ochreous, with a golden gloss around apex.



Fig. 55. *Bactra (C.) trimera* sp.n., ♂, holotype, genitalia. Fig. 56. The same, ♀, allotype, sterigma and ovipositor. Fig. 57. The same, bursa

Male genitalia. Very characteristic. Tegumen short and broad, vinculum widely V-shaped. Uncus rather short. Socius large. Valva peculiar, cucullus narrowed at base, costa rounded and strongly prominent below middle, top considerably attenuated, slender. Valvula moderate, with a large corona. Sacculus strongly concave, top extended so as to form a large triangular process, with 7—8 long spines along edge; base of sacculus narrowed, concave; punctulated area on an oblique transverse discal tumescence. Juxta large. Caulis short. Aedeagus robust, rather short, cornuti, some 5 long spines.

Material studied. South Africa, Natal: Bela Vista, XI.1914 (C. J. SWIERSTRA), 1 ♂, holotype, gen. no. 4243; Magude, IX.1918 (C. J. SWIERSTRA), 1 ♂, paratype, no. 4241. Transvaal: Woodbush Village, 1670 m, 11.I.1925 (A. J. T. JANSE), 1 ♂, paratype, no. 4367. 3 ♂.

The male from Woodbush is melanistic, with the fore wing strongly infuscated, but with discal markings, the discal spots, and the pretornal dot remaining distinct. The second paratype is similar to the holotype.

♀ 18—24 mm (allotype 22 mm). Head and thorax tawny-fulvous. Palpus pale fulvous, basal half of tuft of median segment blackish. Abdomen fuscous.

Fore wing oblong, rather narrow, costa curved towards extremities, straight in middle. Pale fuscous, glossy, evenly suffused except above tornus, with dull tawny. Costal markings reduced to minute dark purplish traces along extreme edge posteriorly; first and second discal spots indicated by some dark purple dustings; traces of some leaden transverse strigulae below costa posteriorly; termen with a tawny line dusted with purplish; part of wing below vein 7 and as far as cell rather well-defined and not suffused with tawny. Cilia purple, dull, dusted with whitish, a narrow basal and an indistinct subapical whitish lines.

Hind wing glossy, slightly suffused with grey. Cilia concolorous.

A variable lot. Except the allotype there are three tawny-greyish unicolorous specimens, two pale ochreous insects with a narrow grey median streak, faint and interrupted, and two pale ochreous specimens with well-defined dark fuscous-grey broad median streak, in one of them gradually dilated so as to occupy almost entire termen.

Female genitalia. Seventh sternite strongly sclerotized and plicate, outer rostral margin stronger sclerotized and with a narrow dark fold on each side. Ostium rather wide, forming a strong funnel, its walls thickened along upper portion from below top. Anapophyses rather long and slender, postapophyses slender and long. Signum, a shallow basket.

Material studied. In the Transvaal Museum. South Africa, Natal: Karkloof, 23.I.1917 (A. J. T. JANSE), 1 ♀, allotype, gen. no. 4479. All other are ♀ paratypes: Transvaal: Tweefontein, 13.I.1907, gen. no. 4299; Pretoria, 7.I.1910, gen. no. 2879; 5.XII.1907, gen. no. 4354; the same, 15.II.1915, gen. no. 4302; the same, 6.XII.1917, gen. no. 4304. Barberton, 31.XII.1910, gen. no. 4307 (all by A. J. T. JANSE).

In the British Museum. Natal: Weenen, X-XI.1925 (H. P. THOMASSET), 1 ♀, paratype, gen. no. 3627. Transvaal: Pretoria, 2.XI.1907 (JANSE), gen. no. 3462 (MEYRICK Collection). 8 ♀.

Bactra (Chiloides) nesiotis spec. nov.

Figs. 61—62

♀ 19 mm. Head and thorax dark fuscous-grey. Palpus rather pointed, pale ochreous-tawny, with a well-defined median blackish line running to tip. Abdomen rather dark fuscous-grey.

Fore wing narrow, sublanceolate, costa rather curved along anterior half, almost straight posteriorly, apex acutely pointed, termen almost straight, gently convex, very oblique. Rather unicolorous dark fuscous-grey. Costa slightly lighter, slaty-grey with minute linear transverse black marks; basal third of wing tinged purplish-grey, darker; terminal portion of wing somewhat more tinged grey-olive, dorsum with a series of approximated triangular dark fuscous dots. Cilia sordid pale ochreous-fuscous mixed with fuscous, with slightly paler base and ill-defined sub-basal line.

Hind wing dark fuscous with a bronze gloss, paler towards costa; in paratype hind wing dull fuscous-black, unicolorous. Cilia pale fuscous with a fuscous sub-basal band.

Female genitalia. Lobi anales slender and elongate. Sterigma formed by a transversely oblong moderately sclerotized lamella postvaginalis, its upper edge with two triangular excisions, middle part rounded. Lower edge of this sclerite forming the ostium bursae, continued as a strong tubular colliculum, gradually dilated downwards, with a split in middle of lower third. Ostium flanked by slightly sclerotized plates, finely wrinkled along inner edge which is prolonged downwards. Signum basket-shaped.

Material studied. Madagascar: "Antananarivo", (M.), 1911, 1 ♀, holotype (rather worn, right fore wing and head missing), gen. no. 2158. Paratype, 1 ♀, the same data, without abdomen. (Labels in MEYRICK's hand. In MEYRICK Collection, in the British Museum).

A conspicuously dark insect with strongly pointed fore wings. Superficially it resembles a *Nannobactra* and is, in fact, very similar to *B. (Nannobactra) sardonias* Meyr. Its position is obscure without the evidence of the male genitalia. The genitalia resemble slightly those of *contraria* Diak. from Borneo, but resemblance may be purely incidental.

Subgenus *Nannobactra* Diakonoff, 1956

Nannobactra Diakonoff, 1956, Zool. Verh., no. 29, p. 52 (subgen. of *Bactra*).

The subgenus differs from *Chiloides* by compact male genitalia with the valvula present and equally well-developed, but with the cucullus distinctly separated from the basal part of the valva by a transverse groove; this cucullus is usually rounded, sclerotized throughout and beset along its outer edge with one to three series of very large spines becoming smaller towards top of cucullus. The females possess a weakly sclerotized sterigma, formed by little modified, small and usually finely short-haired ridges, tumescences and folds. The signum is a small concave and denticulate sclerite, often weak, sometimes absent.

The species usually are small, with narrow and pointed wings, and with similar,

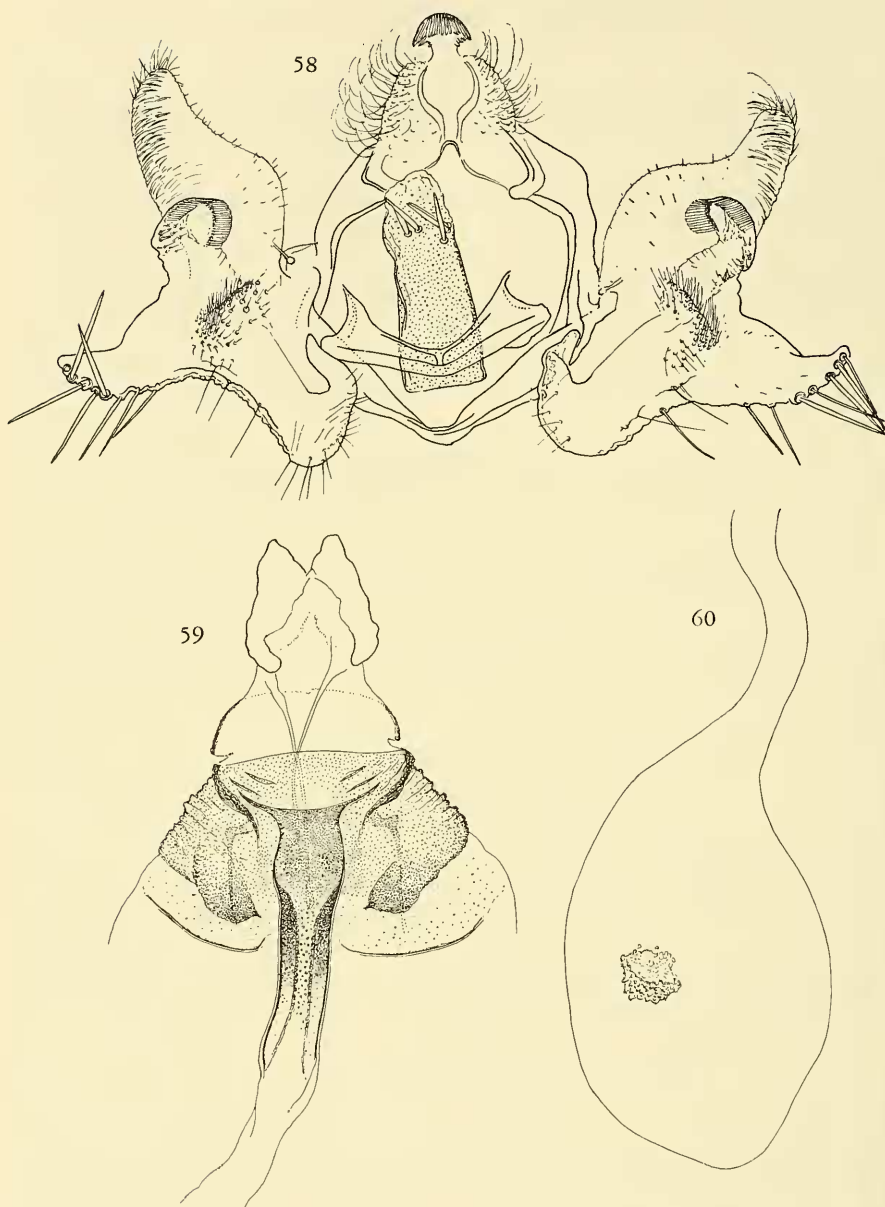


Fig. 58. *Bactra* (*C.*) *triceps* sp.n., ♂, holotype, genitalia. Fig. 59. The same, ♀, allotype, sterigma and ovipositor. Fig. 60. The same, bursa

although variable markings. It is very easy to identify the subgenus, but the species usually are difficult of recognition, especially the females. Although I am including the males in the key to the species, I am not able to do the same for the females, except for the very distinct *sardonias*. It is likely that only rearing of whole egg

batches will allow certain identification and separation of the females of *Nannobactra* species; a key for that purpose is not possible at present.

To stress and elaborate certain differences of the structure of the male genitalia in this difficult group, I am introducing a few new (non-Latin) descriptive terms. The degree of the development of the gnathos, or at least, of structures which seem to be homologous with that part, is of specific importance. Sometimes a membranous, complete transverse and band-like gnathos is present, more often it is obliterated in the middle and only its basal parts, shaped as triangular lobes at the tegumen, are visible; for these structures I use the term "shoulder lobes". Sometimes they may be entirely absent. The large spines along the edge of the cucullus, are homologous with "cucullus bristles and spines", an indication used by me before, in the subgenera *Bactra* and *Chiloides*. In *Nannobactra* these spines are so large that they form a marginal corona; therefore the term "corona spines" is used for these structures. Often the ultimate and the penultimate 1—3 corona spines are much larger or differently shaped than the other; in this case they are termed "inequal". Seldom this difference is slight, then they are termed "subequal corona spines".

***Bactra* (*Nannobactra*) *sardonia* (Meyrick, 1908)**

Figs. 64, 67—68

Pamplusia sardonia Meyrick, 1908, Proc. Zool. Soc. Lond., p. 718 (♂ ♀). — Clarke, 1955, Meyrick's Types, vol. 1, p. 277.

Bactra sardonia: Clarke, 1958, loc. cit., vol. 3, p. 315, t. 156 figs. 1—1a (lectotype select., fig.).

Distribution. Transvaal: N.E. Pretoria.

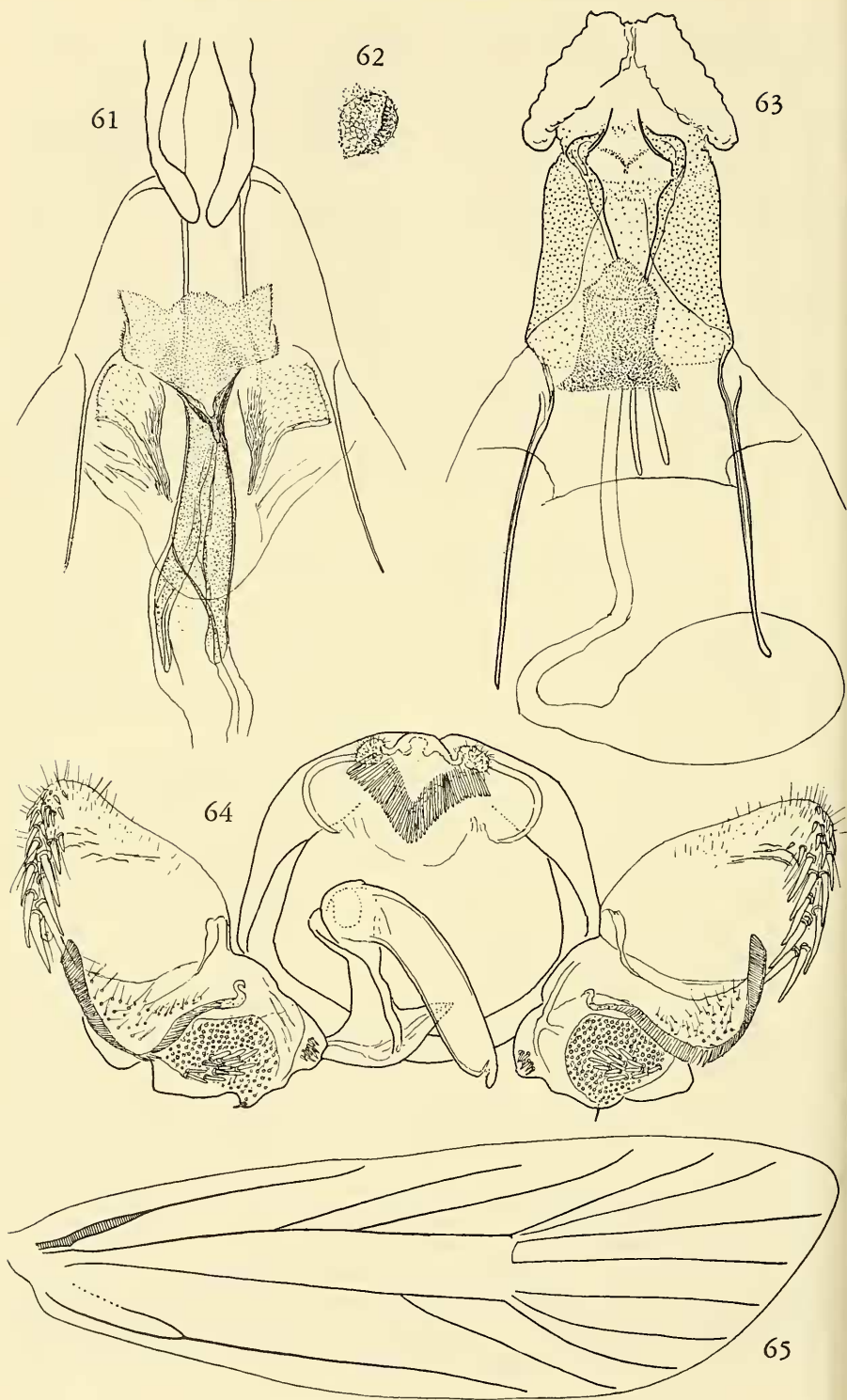
This apparently rare species has hitherto been known after the unique male lectotype, in the British Museum. By a lucky chance a single female specimen, in my opinion undoubtedly conspecific with the male, was found in the MEYRICK Collection. This female and the genitalia of the two sexes may be described as follows.

♀ 17 mm. Head and thorax pinkish-fulvous. Palpus whitish, upper edge and tip fulvous. Abdomen dark fuscous.

Fore wing sublaceolate, little dilated, costa gently sinuate, being curved along anterior half, slightly prominent before middle and hardly concave posteriorly, apex sharply pointed, termen gently concave, almost straight, very oblique. Evenly tawny-fulvous, only towards costa becoming paler, fulvous-greyish. Costa with numerous dark brown, small, wedge-shaped transverse marks, on posterior half of costa with whitish interspaces, which become pale pinkish before apex. Cilia pinkish-fulvous, mixed with whitish, with a pure white basal streak, a cloudy black bar opposite apex.

Hind wing dull dark bronze-fuscous, darker towards apex, paler towards dorsum. Cilia (imperfect) fuscous with a dark fuscous subbasal band.

Male genitalia. Tegumen broad, spherical. Uncus large; socius small. Gnathos indicated, very weak. Valva of the usual shape, but valvula very large and characteristic, corona being continued along the ventral edge of the valvula to its base. Saccus small, with a large punctulate area, spined only in centre and to-



wards the outer edge, spines moderate, not numerous. Aedeagus rather long.

Female genitalia. Eighth + ninth segment sclerotized, intersegmental membrane between this and lobi anales finely aciculate ventrally, naked laterally. Both apophyses pairs quite long. Sterigma well-modified, lamella posterior forming a rather narrow vertical prominence, densely aciculate, with a truncate top. Ostium bursae pear-shaped, its lower edge gradually rounded and thickened; lamella antevaginalis developed, a sinuate transverse band or fold with thickened edges, twice sinuate; curved downwards in the middle and again, less so, at the sides; strong folds running from the extremities of this lamella along edges of the genital segment, and becoming weaker and less sclerotized dorsad. Signum, a small concave sclerite, finely scobinate and denticulate.

Material studied. South Africa, Transvaal: N.E. Pretoria, 14.I.1907 (JANSE), ♀, gen. no. 3519. (In MEYRICK's hand; in MEYRICK Collection, in the British Museum).

***Bactra* (*Nannobactra*) *legitima* Meyrick, 1911**

Figs. 68, 70—71

Bactra legitima Meyrick, 1911, Trans. Linn. Soc. Lond., vol. 14, p. 269 (♀). — Viette, 1947, Mém. Inst. sci. Madagascar, ser. A. vol. 1, p. 54. — Clarke, 1955, Meyrick's Types, vol. 1, p. 183. — 1958, loc. cit., vol. 3, p. 312, t. 155 fig. 1 (type figured).

Bactra (*Nannobactra*) *legitima*: Diakonoff, 1961, Ann. Soc. ent. France, vol. 130, p. 70 (Mahé, ♂ neallotype).

Distribution. Seychelles: Silhouette Id, Mahé Id.

Material studied. South Africa, Natal: St. Lucia Lake, X.1920 (H. W. B.), 1 ♂, gen. no. 4379; New Hanover, 26.XII.1915 (A. J. T. JANSE), 3 ♂, gen. nos. 3792, 4335, and 4339. Southern Rhodesia: Salisbury, 1.I.1920 (A. J. T. JANSE), 1 ♂, gen. no. 4543 TM. Bulawayo, 15-23.XII.1919 (A. J. T. JANSE), 1 ♂, gen. no. 4370.

Besides, a ♀, with a label in MEYRICK's hand: "Silhouette, Seychelles I., X.09" (MEYRICK Collection, in the British Museum), gen. no. 2157. A worn specimen without head, but with an intact abdomen, obviously conspecific with the female type specimen (without abdomen) in the British Museum and, very probably, being the paratype. Female genitalia may be described as follows.

The genital segment moderately and evenly sclerotized throughout; this segment descending on each side of sterigma, so as to form slender smooth bands, each ending in a small free lobe level with the ostium; these bands sharply delimiting the sterigma proper which is weak and not sclerotized but recognisable by fine aciculation (while the bands are naked); lamella postvaginalis with a curved upper edge; ostium wide and regular; colliculum well-defined but neither sclerotized, nor aciculate and rather shallow.

***Bactra* (*Nannobactra*) *minima* Meyrick, 1909**

Bactra minima Meyrick, 1909, Journ. Bombay Nat. Hist. Soc., vol. 19, p. 586 (♂ Barbeyn Island, Ceylon). — Diakonoff, 1950, Bull. Brit. Mus., Ent., vol. 1, p. 288, pl. 6

Fig. 61. *Bactra* (C.) *nesiotis* sp.n., ♀, holotype, sterigma. Fig. 62. The same, signum. Fig. 63. *Lobesia* (*Lomaschiza*) *quadratica* (Meyr.), ♀, holotype, genitalia. Fig. 64. *Bactra* (*Nannobactra*) *sardonias* Meyr., ♂, holotype, genitalia. Fig. 65. *Lobesia* (*Harmosma*) *harmonia* (Meyr.), neuration of right fore wing

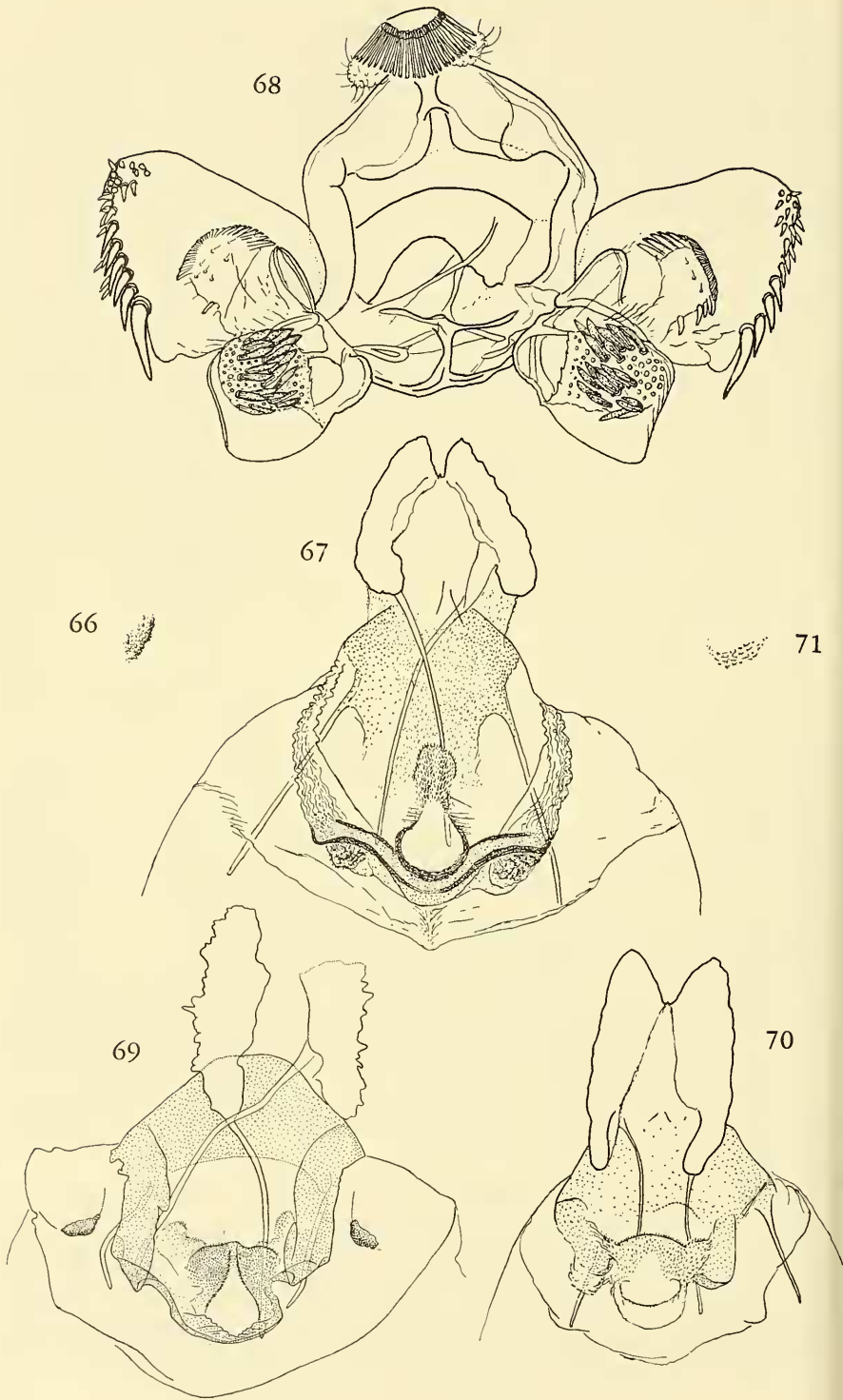


fig. 25 (lectotype designated, gen. ♂ descr. and fig.). — 1956, Zool. Verh., no. 29, p. 55, figs. 52—53 (*phaeopsis* syn.).

Bactra phaeopsis Meyrick, 1911, Proc. Linn. Soc. N.S. Wales, vol. 36 p. 254 (♂ ♀, Sudest Island, New Guinea). — Diakonoff, 1950, Bull. Brit. Mus., Entom., vol. 1, p. 288, pl. 6 fig. 28 (gen. ♂), pl. 8 fig. 41 (gen. ♂) (Lectotype designated, gen. ♂, ♀ descr. and fig.).

Distribution. Ceylon (Barberyn Island); New Guinea (Sudest Island); Solomon Islands; Marianas Islands.

Canary Islands, Tenerife, IV.1884 (LEECH) (WALSINGHAM Collection), gen. no. 3697, ♂ (no. 62294), 3700 ♂ (78866), 3701 ♂ (78865) and 3705 ♀ (78864). All in WALSINGHAM Collection, British Museum.

It is surprising to find *minima* "so far from home". This species must be widely distributed, but must have escaped attention of collectors due to its modest colouring and size.

The male genitalia of the present material agree in all details with those of the Asiatic specimens. The female has an exactly similar sterigma, but the genital segment is somewhat more sclerotized. However, this feature is subject to some variation throughout the subgenus.

***Bactra* (*Nannobactra*) *dasioma* spec. nov.**

Figs. 69, 73

♂ 16 mm. Head creamy, vertex suffused with pale tawny. Palpus whitish above, creamy, mixed with light brown, laterally. Thorax creamy, spotted with fuscous. Abdomen light grey, anal tuft pale ochreous.

Fore wing rather broad, oblong, costa curved at extremities, straight in middle, apex moderately pointed, termen straight, oblique. Creamy-white, glossy. Markings light tawny-brown, fuscous and blackish, well-defined. Costa along anterior half with not numerous dark fuscous wedge-shaped small marks, posterior half of costa contrastingly different: with six broad, light tawny transverse spots; first of these median and trapezoidal; second narrow, fasciate; third to fifth, wedge-shaped; sixth apical, rounded; spaces between these spots formed by glossy pairs of white costal marks, each pair with a minute separating median dark line; fourth costal mark continued by a straight streak to upper part of termen; first discal spot arrowhead-shaped, black, continued below as an inwards-oblique streak across wing to above dorsum; second discal spot semioval, longitudinal, dark tawny-fuscous, on middle of its upper edge a small tawny suffusion indicating rest of transverse fascia; stigma small and pale, upper half absent; a slightly inwards-oblique short fuscous streak between cell and tornus; a pair of irregular curved ochreous-tawny marks on upper part of termen, united into a suffused triangular fuscous marginal line from apex to tornus. Cilia creamy, mixed with pale ochreous, a pale ochreous antemedian line, a dark fuscous small blotch opposite apex.

Hind wing glossy pale ochreous, considerably suffused with light purplish, more so towards apex.

Fig. 66. *Bactra* (*N.*) *legitima* Meyr., ♂, neallotype (after Diakonoff, 1961). Fig. 67. *B.* (*N.*) *sardonis* Meyr., ♀, gen. no. 3519. Fig. 68. The same, signum. Fig. 69. *B.* (*N.*) *dasioma* sp.n., ♀, allotype, sterigma and ovipositor. Fig. 70. *B.* (*N.*) *legitima* Meyr., ♀, gen. no. 2157. Fig. 71. The same, signum

♀ 16 mm. Exactly similar to the male but with all markings somewhat darker, fuscous, costal spots narrower, pretornal mark broader, touching dorsum before tornus, first discal spot continued to dorsum. Hind wing suffused with darker purple, except towards base.

Male genitalia. Comparable with those of *phaulopa* Meyrick from Asia, but clearly differing by the presence of shoulder lobes which are slightly rounded and aciculate. Valva of normal shape, corona spines large and long, in two oblique series, punctulate area with only few thick and rather short spines (10 left, 11 right), and a few fine teeth on the inner edge; lower part of sacculus extended into a broad blade, rounded below, forming a short triangular cusp above.

Female genitalia of *phaulopa* type, but more similar to those in *verutana* Zell. The genital segment sclerotized, lamella antevaginalis with upper and lower edges distinct and sclerotized. Small lateral sclerites present, separate and very dark. Signum minute.

South Africa, Cape Province: Stella Bush, 28.II.1915 (A. J. T. JANSE), 1 ♂, holotype, gen. no. 4477. Natal: Umkomaas, 29.I.1914 (A. J. T. JANSE), 1 ♀, allotype, gen. no. 4459. (In the Transvaal Museum).

Cape Province: Umtata, X.1904 (LEIGH), 16411, 1 ♂, paratype, gen. no. 3655 (WALSINGHAM Collection, in the British Museum). 2 ♂, 1 ♀. A brightly marked species with, for the subgenus *Nannobactra*, unusually broad fore wings.

***Bactra (Nannobactra) aciculata* spec. nov.**

Fig. 72

♂ 14 mm. Head, palpus and thorax whitish, shoulder fuscous. Abdomen fuscous.

Fore wing sublanceolate, dilated, broadest at $\frac{3}{4}$, costa gently curved throughout, more so along its posterior fourth, apex acutely pointed, termen tolerably straight, oblique. Creamy-white with a silky gloss, markings dark fuscous (rather worn). Anterior part of costa narrowly suffused with dark grey and with a series of dark fuscous transverse marks; basal patch not defined, transverse fascia indicated by a moderate transverse fuscous spot on middle of costa, below costa extended into a fasciate longitudinal small tawny suffusion, continued across wing by a very faint pale yellowish colour; first discal spot longitudinal, fasciate; second discal spot irregularly semioval, rather well-defined, dark fuscous, its ends acutely produced, stigma represented by a small excision of its upper edge; apical streak faint anteriorly, posteriorly blotchy and emitting a vertical bar to lower part of termen; a jet-black oval spot in apex; faint transverse marks along dorsum. Cilia dark fuscous (damaged).

Hind wing and cilia pale fuscous (imperfect).

Male genitalia of *phaulopa* type. There is a distinct membraneous and band-like gnathos. Cucullus with a broadly rounded top, corona spines in two series, moderately curved and subequal (ultimate 3—4 spines hardly different in shape and size), pointed. Sacculus as large as cucullus, lower edge with a moderate, gradually rounded blade, becoming narrower above, cusp blunt; punctulate area with a moderate number of strong pointed spines, situated towards top and outer edge; inner edge of this area with several unequal, very acute teeth.

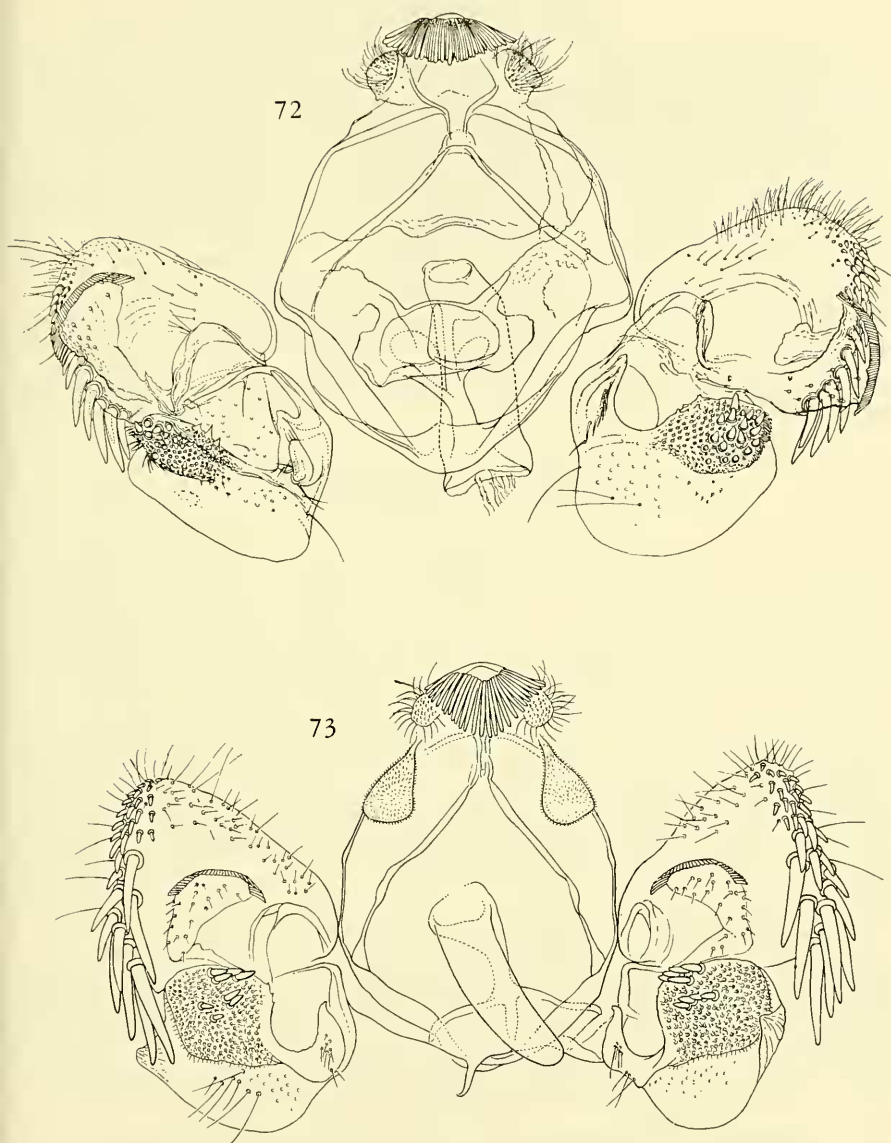


Fig. 72. *Bactra* (N.) *aciculata* sp.n., ♂, holotype, genitalia. Fig. 73. The same of *B.* (N.) *diasoma* sp.n., ♂ holotype

Distinct by strongly rounded cucullus, subequal corona spines, position of sacculus spines and dentate inner edge of punctulate area.

Material studied. South Africa, Southern Rhodesia: Selukwe, 27.XII.1919 (A. J. T. JANSE), 1 ♂, holotype, gen. no. 4466. Unfortunately a single specimen available; the species, however, is sufficiently distinct.

Bactra (*Nannobactra*) spec.

The following six female specimens of *Nannobactra* must remain unidentified for the present, due to their poor condition and to the considerable variability of the sclerotization of the genital segment in the species of this subgenus.

3788, Mazoo (S. R.), I.1920 (Coll. JANSE). 4329 and 4330, Barberton (T.), 15.I.1911 and 31.XII.1910 (A. J. T. JANSE). 4335, Durban (C. P.), 13.XII.1916 (V. D. MERWE, Coll. JANSE). 4369, Bulawayo (S. R.), 15-23.XII.1919 (A. J. T. JANSE), and 4402, Lorenzo Marques, 23.II.1930 (A. C. DAINTREE).

APOCRYPHAL SOUTH AFRICAN *Bactra* SPECIES

Two following species have been originally described as, or subsequently transferred to, *Bactra*.

Lobesia Guenée, 1845*Harmosma* subgen. nov.

Fig. 65

With superficial characters of *Lobesia* but with veins 9 and 10 moderately sinuate, approximated posteriorly, then slightly diverging again; pterostigma ill-defined.

Male genitalia with tegumen weak, rounded. Gnathos membranous, a weak curved transverse rod. Tuba analis ill-defined. Valva rather narrow, sclerotized throughout, cucullus slender, narrowed, covered all over, but not densely, with slender spines; sacculus strongly thickened, with a transverse deep groove (scalloped), separating Spc_1 and Spc_2 completely; both these spine clusters large, elongate, formed of extremely dense spines, those on the ventral end of Spc_1 very long, forming a projecting sheaf.

Female genitalia with sterigma shaped as a long, entirely free, rising tube, narrowed towards the top which is spinulose. Signum, a small denticulate concave sclerite.

Type-species, *Polychrosis harmonia* Meyrick, 1908. An interesting form, derivable from the Palaearctic subgenus *Lobesiodes* Diakonoff, 1954.

Lobesia (*Harmosma*) *harmonia* (Meyrick, 1908) combin. nov.

Fig. 65

Polychrosis harmonia Meyrick, 1908, Proc. Zool. Soc. Lond., p. 716 (♂ ♀, Transvaal: Pretoria). — 1911, Ann. Transv. Mus., vol. 2, p. 63 (transferred to *Bactra*). — Clarke 1955, Meyrick's Types, vol. 1, p. 153.

Bactra harmonia: Clarke, 1958, Meyrick's Types, vol. 3, p. 311, t. 154 figs. 2—2a (lecto-type selected, figured).

Distribution. South Africa; Madagascar.

The genitalia, as described for the subgenus above.

Lobesia (Lomaschiza) quadratica (Meyrick, 1912) combin. nov.

Fig. 63

Bactra quadratica Meyrick, 1912, Ann. Transv. Mus., vol. 3, p. 63 (♀, Natal: Nkweleni). — Clarke, 1955, Meyrick's Types, vol. 1, p. 267. — Anonymous, 1958, List Types S. & E. Afr. Museums, vol. 1, p. 57 (holotype indicated).

Distribution. South Africa.

APPENDIX

After the manuscript of the present paper has been sent to the printer, I was entrusted with a small collection of *Bactra* species, collected in Sudan, which were kindly sent to me for identification by Dr. KLAUS SATTLER of the Munich Museum, Germany. It seems worth while to add these latest data to my paper, for the sake of completeness.

Bactra (Bactra) graminivora Meyrick, 1922

This paper, p. 312

Sudan, Ed Damar, Hudeiba, 1.X.—18.XI.1961 (R. REMANE), 2 ♂, 14 ♀, genitalia nos. ♂ 4615, 4622; ♀ 4604—4608, 4610—4614, 4616—4618 and 4621.

Bactra (Chiloides) venosana (Zeller, 1847)

This paper, p. 331

Sudan, Ed Damar, Hudeiba, 18.XI.1961, 15.III.1962; Blue Nile Province, Wad Medani, 3.VIII.1962 (R. REMANE), 3 ♂, 1 ♀, genitalia nos. 4542 ♂, 4620 ♂, 4609 ♀.

Bactra (Chiloides) tornastis Meyrick, 1909

Bactra tornastis Meyrick, 1909, Journ. Bombay Nat. Hist. Soc., vol. 19, p. 586 (♂ ♀ Ceylon; Coorg). — Diakonoff, 1950, Bull. Brit. Mus., Ent., vol. 1, p. 289, t. 5 fig. 18 (lectotype select., genit. figured). — Clarke, 1955, Meyrick's Types, vol. 1, p. 312. — 1958, loc. cit., vol. 3, p. 315, t. 156 figs. 3—3a (lectotype illustr.).

Distribution. India: North Coorg; Ceylon; Pakistan.

Sudan, El Damar, Hudeiba, 18.XI.1961, gen. no. 4619 ♂. Blue Nile Province, Wad Medani, 3.VIII.1962, gen. no. 4624 ♂ (R. REMANE). 2 ♂.

The discovery of this Indian species in Africa is a complete surprise. The species is intermediate between *fasciata* and *triceps*, but all three are entirely distinct. In my key *tornastis* would run to no. 14, *triceps*. However, the male genitalia differ by the sacculus being less extended laterad, having a more rounded and less prominent point, beset with a much longer series of distinctly shorter spines. The genitalia agree with those of my Asiatic examples of *tornastis* closely. There is no doubt of this being the same species.

REFERENCES

- DIAKONOFF, A., 1950. — The type specimens of certain Oriental Eucosmidae and Carposinidae (Microlepidoptera) described by Edward Meyrick, together with descriptions of new Eucosmidae and Carposinidae in the British Museum (Natural History). *Bull. Brit. Mus., Ent.*, vol. 1, p. 285—289, t. 5—8.
- , 1956. — Records and descriptions of Microlepidoptera (8). *Zool. Verh.*, no. 29, p. 1—60, figs. 1—57.
- , 1959. — Further records and descriptions of *Bactra* species (Lepidoptera, Tortricidae), chiefly in Dr. H. G. Amsel Collection. *Bijdr. Dierk.*, part 29, p. 173—186, figs. 1—18, table.
- , 1962. — Preliminary survey of the Palaearctic species of the subgenus *Bactra* Stephens (*Bactra*, Tortricidae, Lepidoptera). *Zool. Verh.*, no. 59, p. 1—48, figs. 1—36, t. I—XVIII.
- MABILLE, P., 1900. — Lepidoptera nova malgassica et africana. *Ann. Soc. ent. France*, vol. 68 (1899), p. 751.
- MEYRICK, E., 1909. — Descriptions of Transvaal Microlepidoptera. *Ann. Transv. Mus.*, vol. 2, p. 9, t. 3 fig. 7.
- , 1911. — Descriptions of Transvaal Microlepidoptera, II and III. *Ibid.*, vol. 4, p. 62—63, 227—228.
- WALSINGHAM, Lord, 1881. — On the Tortricidae, Tineidae and Pterophoridae of South Africa. *Trans. ent. Soc. Lond.*, 1881, p. 231—232.
- WALKER, F., 1866. — List Lep. Het. Brit. Mus., vol. 35, p. 1750.
- ZELLER, P. C., 1852. — Lepidoptera microptera quae J. A. Wahlberg in Caffrorum terra collegit, p. 84, Stockholm.

Index to species

Synonyms are in italics

aciculata 352	jansei 313	scrupulosa 300
adelpha 316	<i>lactosana</i> 318	<i>siccella</i> 326
aletha 334	lanceolana 310	simpliciana 318
<i>Bactra</i> , subgen. 294	legitima 349	sinassula 339
Chiloides, subgen. 313	Lobesia 354	sordidata 318
confusa 308	Lomaschiza 355	Spinobactra, subgen. 291
crithopa 312	minima 349	spinosa 291
dasioma 351	Nannobactra, subgen. 345	stagnicolana 326
dolia 300	nesiotis 345	tornastis 355
endea 321	<i>pauperrima</i> 318	tradens 305
fasciata 338	punctistrigana 330	triceps 342
furfurana 310	pythonia 296	trimera 331
graminivora 312, 355	quadratica 355	tylophora 319
harmonia 354	rhabdonoma 322	venosana 331, 355
Harmosma, subgen. 354	salpictris 336	
<i>hebetata</i> 296, 298	sardonina 347	